FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

SEPTEMBER, 1938

TO BE SURE . . .

MANHATTAN RADIO-ACTIVE TREATED FIRE HOSE

Mildew-Proof . . . Rot-Proof . . . Freeze-Proof

There's no place for guesswork in modern fire fighting . . . too much depends on being sure!

To be sure of unfailing hose performance, many leading departments make sure that they get Manhattan Radio-Active Treated Fire Hose.

Manhattan chemists have perfected Manhattan Radio-Active Treated Fire Hose by treating the hose fabric with salts of rare earth metals having radio-active properties, which are mildew resistant and moisture repellent. This original and patented process results in four advantages:

1—longer lasting hose by overcoming the ravages of mildew.

2—greater resistance to mildew and rot, and a lighter hose because water absorption is reduced.

3—prevention of freezing in winter.

4—lower maintenance costs because careful drying is unnecessary.

No matter what your needs or how limited your budget, be sure of your hose. Look for the Green Jacket of Manhattan Radio-Active Treated Fire Hose—you'll find its life limited only by natural wear or possible accident in use.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
Sole Manufacturers of Radio-Active Treated Mildew-Proof Fire Hose
EXECUTIVE OFFICES and FACTORIES, 32 TOWNSEND ST., PASSAIC, N. J.
Birmingham Boston Chicago Cleveland Detroit Minneapolis
New Orleans New York Philadelphia Pittsburgh St. Louis San Francisco

FIRE ENGINEERING, September, 1938, Vol. 91, No. 9. Published monthly by Case-Shepperd-Mann Publishing Corporation, 24 W. 40th St., New York, N. Y. Subscription price: U. S. and Canada, $2.00 a year; foreign, $3; single copies, 25c. Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

More firemen are killed and injured and more apparatus wrecked in traffic accidents while responding to alarms, it is estimated, than in actual fire-fighting work.

A GOOD *SIREN* IS AS IMPORTANT AS GOOD TIRES

SAFETY depends on both!

Millions of dollars are invested in fire department equipment. Nothing can be too good when it comes to safeguarding your community against fire losses and loss of life. When it comes to that very important part of your safety equipment—*the siren*—why let a few dollars stand in the way of your getting the very latest and most dependable siren known to fire chiefs everywhere. All the more reason why you should specify a Federal No. "77" Doubletone Siren with light when you purchase new apparatus. The Federal No. "77" Doubletone Siren has proven itself on the best of today's fire apparatus. Not only has it a most commanding voice . . . which rolls on two minutes after you cut the current . . . but is ruggedly constructed to take punishment under every conceivable condition of service. Its large, brilliant flashing, red light can be seen for blocks . . . day and night. That's the kind of a siren that gets you through traffic *safely.*

FEDERAL NO. 77 DOUBLETONE SIREN WITH LIGHT

Write for our New Bulletin No. 61 . . . TODAY!

FEDERAL ELECTRIC COMPANY, Inc.
8702 S. State St., Chicago, Ill.

FIRE CHIEFS, ATTENTION!

HERE'S A

THAT'S ALSO

THERE is nothing freakish about this *Model H-C* Ahrens-Fox Pumper built for the City of Stamford, Connecticut—either in appearance, arrangement or engineering design.

Sensibly streamlined, with all-steel cab to provide safety and comfort for the crew, extra large body for convenient carrying of ample equipment, and with "quick-action" arrangement of appliances, the Model H-C is a thoroughly practical and highly efficient pumper, as well as a beautiful piece of apparatus.

It is the kind of fire engine which increases the civic pride of every citizen and loosens the budget purse strings for the buying of additional equipment by creating public desire for the replacement of out-moded apparatus. *But above all else, it is a real fire-fighting unit.*

May we send specifications and test reports of this most modern of pumping engines? There is no obligation. Write today.

THE AHRENS-FOX FIRE ENGINE COMPANY .... CINCINNATI, OHIO

AHRENS-FOX BUILDS EVERY TYPE

REAL FIRE ENGINE

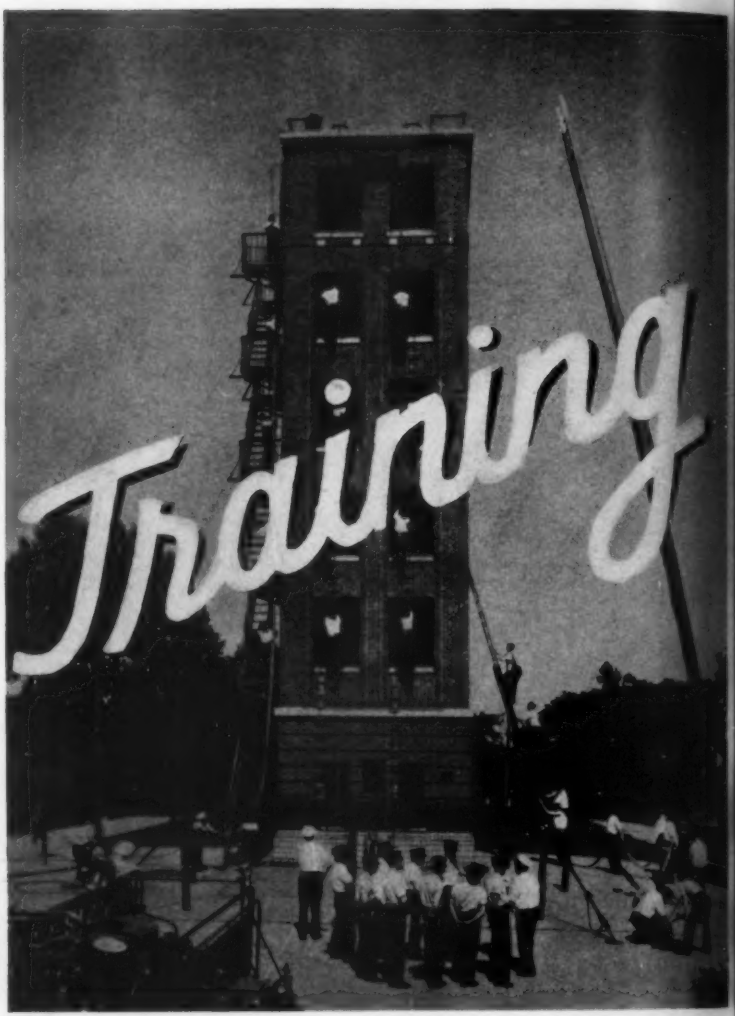
BEAUTIFULLY MODERN!

AHRENS-FOX AF QUALITY

INCORPORATING every operating convenience and proven feature of modern apparatus design, this Ahrens-Fox Pumper *Model H-C* is equipped with 1000 g.p.m., two stage Centrifugal pump of the series-parallel type, and is powered by a heavy duty, moderate speed, six cylinder motor. The pumping and road performances so far exceed the specification requirements that Ahrens-Fox engineers are justified in characterizing this pumper as the super fire engine of the centrifugal class.

PUMP FOR EVERY KIND OF SERVICE!

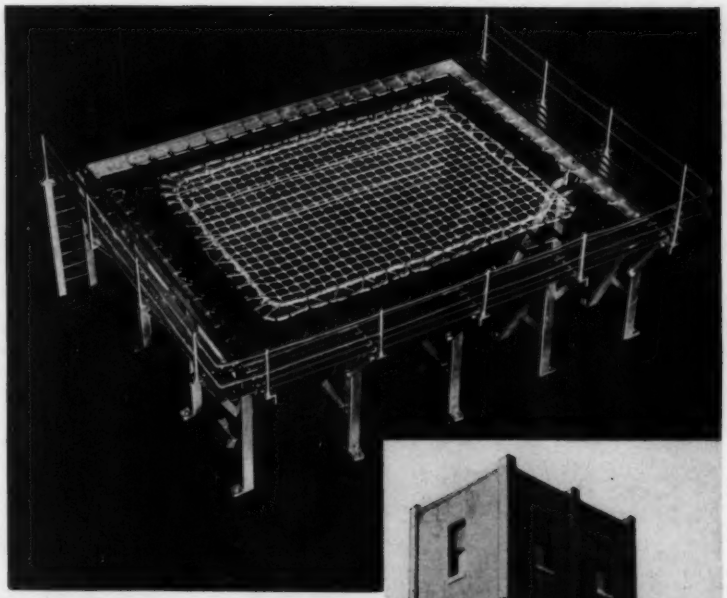
The Highlight of the New Orleans Convention will be—

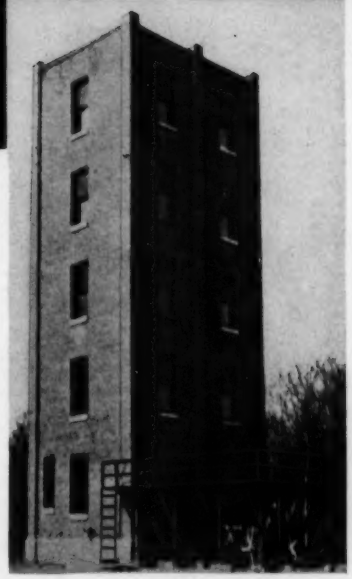


The International Association of Fire Chiefs is to be commended for its activity in furthering one of the most important programs ever undertaken by that body—training of firemen. Amazing results have accrued not only in better trained and manned fire departments but in marked reduction in losses of life and property by fire. In this great work the Association is assured of the cooperation of civic bodies and nationally recognized organizations throughout the land. Keep up the good work and more power to you.

ATLAS FIRE EQUIPMENT COMPANY

Kindly mention FIRE ENGINEERING *when writing advertisers*





Above—Model of Schenectady, N. Y. Drill Tower Net. Note shock absorber system.

Left—Atlas Drill Tower Net and Atlas Ladder Belts, used by New York City.

Right—View of Schenectady, N. Y. Drill Tower and Atlas Training Net.

-and for training purposes, an ATLAS net is the best and safest you can buy

Mr. Fire Chief, don't fail to get full details about the Atlas drill tower life saving equipment. Let us show how the Atlas patented shock absorbers make the Atlas a *real* life saving net, and don't forget we are prepared to design the entire structure for you as well.

The following cities are now using Atlas Drill Tower Training Nets: Irvington, N. J.; Englewood, N. J.; Schenectady, N. Y.; New York City; Panama City, Republic of Panama; Santo Domingo City, Dominican Republic.

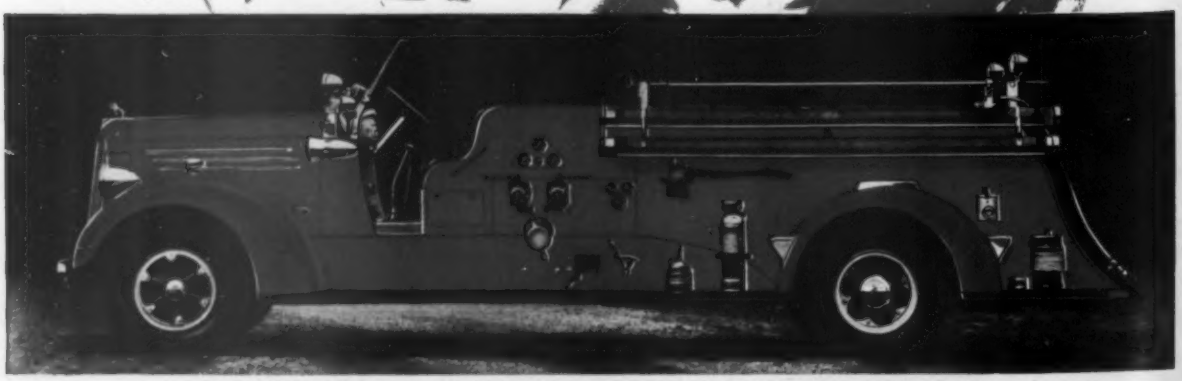
Consult an Atlas engineer before buying Atlas Drill Tower Training Nets; Atlas Portable Life Saving Nets, Atlas Ladder Belts.

22 Warren Street, New York, N. Y.

MACK PRESENTS... THE THERMODYNE

A new high in efficiency

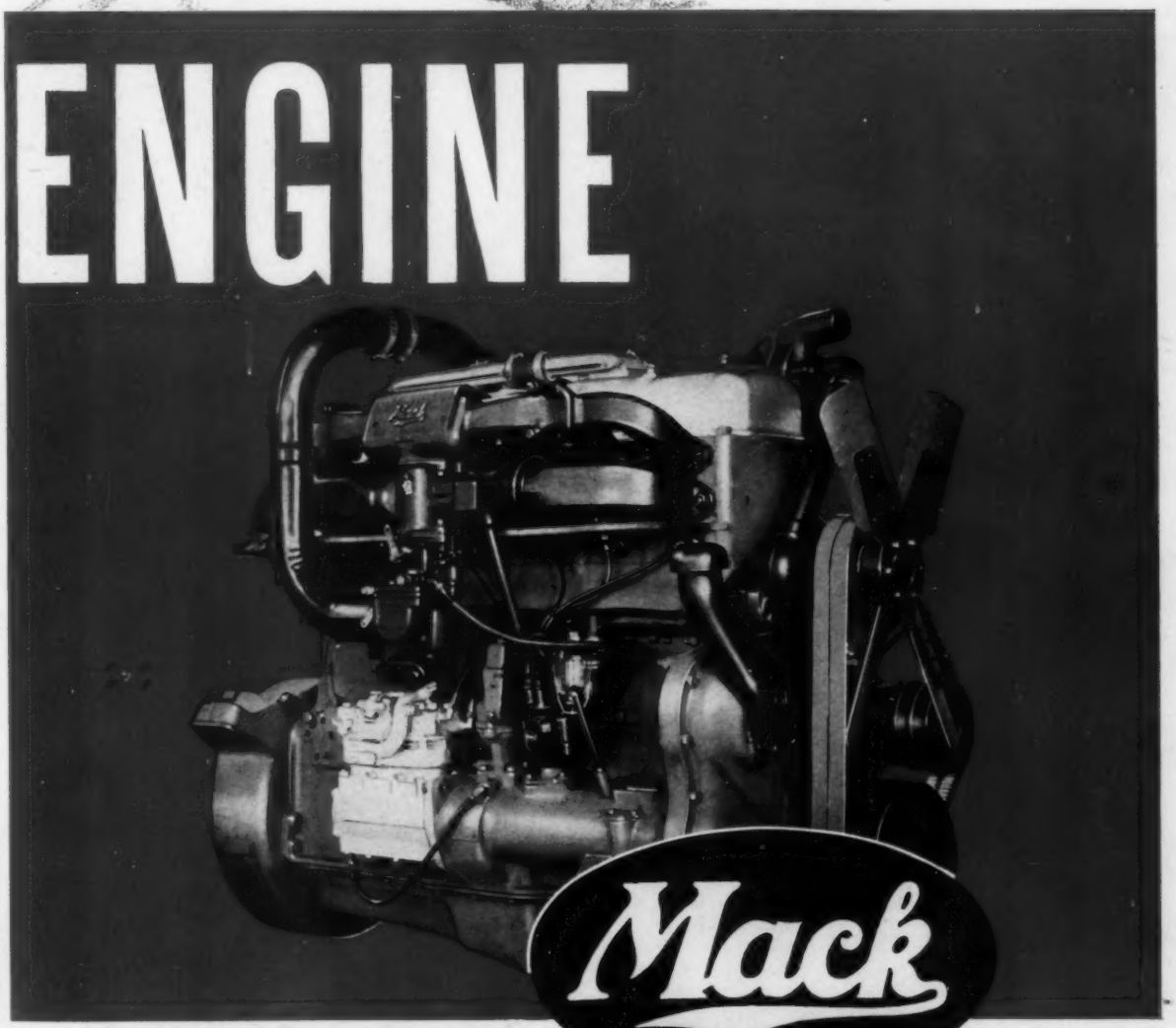
Especially developed for Fire Service



NEW MACK TYPE 80, 750-GALLON PUMPER, POWERED WITH MACK THERMODYNE ENGINE.

Kindly mention FIRE ENGINEERING *when writing advertisers*

ENGINE



Here's the newest and most advanced gasoline engine in fire apparatus today! After eight years of constant research and development, Mack is now ready to introduce *The Thermodyne.*

Through refinements and technical improvements, it achieves great new advantages: greater economy, higher efficiency, and utmost durability. Its increased volumetric, thermal and mechanical efficiency—its higher specific power output—its accessibility—have made it the talk of the fire-fighting profession.

Proof again of the statement that has held true through Mack's 27 years of fire engineering leadership—"Mack has the facilities to build the finest in fire apparatus—*and does.*"

See the new Mack Thermodyne Engine at the International Fire Chief's Convention at New Orleans, September 27th to 30th.

MACK TRUCKS, INC. • FIRE ENGINE DIVISION • NEW YORK, N. Y.

CHIEF JOHN M. EVANS
of the
New Orleans Fire Department

Welcome to NEW ORLEANS

THE GAMEWELL COM

We welcome the opportunity to again prove that GAMEWELL Three-Fold Fire Alarm Systems do reduce Fire losses... *read the following facts—*

Modern Fire Station Watch Desk, with Alarm, Recording, and Vocalarm Equipment

A chain is no stronger than its weakest link. In the vital chain of municipal Fire Defenses, this link happens too frequently to be the Fire Alarm System, and the community pays in the form of excessive fire losses. The Fire Record of Honolulu affords striking but by no means unusual evidence of this fact. Since 1851, when the first system of Fire Alarm Telegraph was installed in the City of Boston, Gamewell fire alarm systems have continuously contributed to reduced fire losses.

In 1931, Gamewell installed the first complete Three-Fold fire alarm system in the great U. S. Army Airport and Experimental Station, Wright Field, Ohio. The inherent merit of the Three-Fold system has since become so widely recognized that *more than 300 municipalities, large industrial plants, institutions, and U. S. Government properties are now using this type of system either wholly or in part.*

Possessing all of the meritorious features of preceding Standard Gamewell systems, this type of system embodies in the highest degree the factors of speed, efficiency, and reliability in transmitting alarms of fire, not only when circuits are in normal condition, *but also when circuits are broken, as in cases of storms, crashing of automobiles into poles or pedestals, blown fuses, and other electrical or mechanical injuries, tending to interrupt the continuity of fire alarm service.*

THREE-FOLD CENTRAL STATION. The accompanying view of the Honolulu fire exchange shows the box line operating board, the master recording and dating equipment, the manual transmitters, and the registers for recording the signals on each individual circuit. The compact assembly and high operating efficiency of Gamewell central stations supplement and increase the efficiency of the system as a whole.

FIRE STATION EQUIPMENT. Recording registers permanently record all alarms on paper tape in each fire station. Alarms are also audibly announced to the firemen by 10" electro-mechanical gongs. The Vocalarm Loud Speaker System amplifies and announces telephonic instructions loudly and distinctly in all parts of fire stations.

THREE-FOLD BOXES. The Three-Fold principle of fire alarm transmission provides factors of safety never before incorporated in municipal fire alarm boxes. Failures of standard fire alarm boxes to properly transmit alarms have been due almost without exception to disordered circuits. Three-Fold boxes will correctly transmit alarms under disordered circuit conditions in which other types of boxes would fail.

Fire alarm boxes are the system—insofar as the public is concerned. Adequate box distribution, accessibility, visibility, and reliability under all conditions are the essential qualifications of municipal fire alarm protection and advertise the interest of the community as a whole in public safety.

Look at the city! Do not the obvious values warrant the utmost in safety engineering and Fire Alarm Protection?

The Three-Fold fire alarm system immeasurably strengthens the municipal fire defenses and by thus contributing to the conservation of life and property constitutes a permanent investment in public safety and true municipal economy.

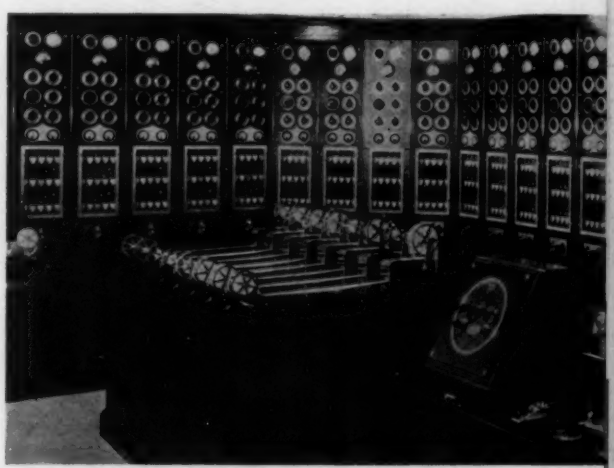
Plans and estimates furnished freely upon request.

ree-Fold Fire arm Box on Type 0000-6 Pedestal

● **HONOLULU,** TERRITORY OF HAWAII, the Three-Fold fire alarm system, installed early in 1933, provided 172 new boxes in addition to 372 boxes already in service—an increase of 46% in fire alarm box protection. The fire record shows a sustained decrease in the fire loss following the installation of the increased protection. For the five year period ending with 1932, there were 2,511 fires, a total loss of $700,616.76, and an average loss per fire of $2,511. For the five year period 1933-1937, inclusive, there were 3,315 fires, a total loss of $326,657.99, and the average loss per fire was $985—*a decrease of* 65%.

● **FRESNO, CALIFORNIA,** reconstructed the fire alarm system and practically doubled the fire alarm box protection in 1923. Chief Williams supplies the information that for the ten years preceding the installation of the improved fire alarm service, the average per capita fire loss was $12.81, and for the ten year period—1923-1932 inclusive—it was $4.79, *a reduction of more than* 62%.

● **LENOIR, NORTH CAROLINA,** among the smaller communities, is an outstanding example of low fire losses following the installation of adequate fire alarm protection. The total average fire loss per annum for 1932, 1933, and 1934, was $61,162. For 1935, the year following the installation of a complete Gamewell fire alarm system, the total fire loss was $7,308. Since this system was installed, *96% of all alarms were sent by Gamewell Three-Fold fire alarm boxes.*



Honolulu T. H., Fire Alarm Central Station
View shows section of operating boards, recording, and transmitting equipment.

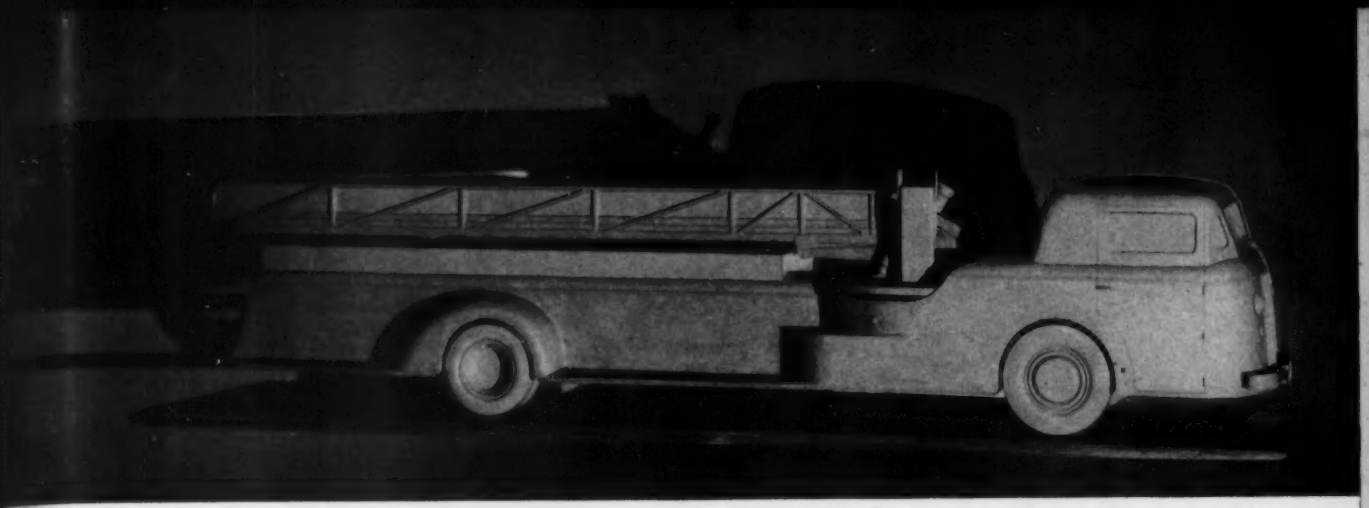
NY. NEWTON UPPER FALLS, MASS.

THIS WOULD BE NEWS
.... EVEN IN 1948!

Our own "Industrial Sculptor" modeling the world's finest fire engine, from which production designs were made.

• • •

The dial has spun ten years ahead in Fire Engine design. In appearance and design of every part the *new* American-LaFrance *leads* the parade. To produce the "world's finest fire engines", we have blended the experience of many years with the needs of today — as you have expressed them to us. American-LaFrance engineers and designers, with your suggestions, have carried fire engine design and performance ten years forward. *You* know the result — and *your* acceptance of the new 500 Series Fire Engines matches our own enthusiasm.



NOW AN ALL STEEL SERVICE AERIAL THAT IS *Years* IN FRONT

The *design* speaks for itself! But it's not alone in the flow of its modern, streamlined efficient *lines* that this Service Aerial is years ahead! For this Service Aerial sets a new standard in design and performance. *"Cab over engine"* type means a big saving in overall length of the apparatus. Built either as an open seat type or with a cab, the same modern appearance and dimensions for length apply. The *Steel Ladder* . . . developed through years of research and test, has a known factor of safety—without loss of strength, even at temperatures of 600° F. *Complete Hydraulic Operation*—as easy as lifting your finger.

The wheel base is only 220 inches. Combined with a wide tread front axle, giving a greater turning angle of the front wheels, a new standard of maneuverability for a 4-wheel ladder truck is provided.

The overall length of Model B-65 (65 ft. aerial ladder) is only 35 ft. 11¾ in.—for Model A-75 (75 ft. aerial ladder) is only 40 ft. 7¾ in.

See this Service Aerial in *Action* and you will see how completely *your* problems wrote its specifications. From the 190 H.P. V-12 Engine to the tip of the All-Steel Ladder it leads the way!

Yes, we are already building All-Steel Service Aerials for:

VICKSBURG, MISS. — MARIETTA, OHIO
OLEAN, NEW YORK — ONEIDA, NEW YORK

Your city should be on this list!

AMERICAN-LA FRANCE & FOAMITE INDUSTRIES, INC.
ELMIRA, NEW YORK, U. S. A.

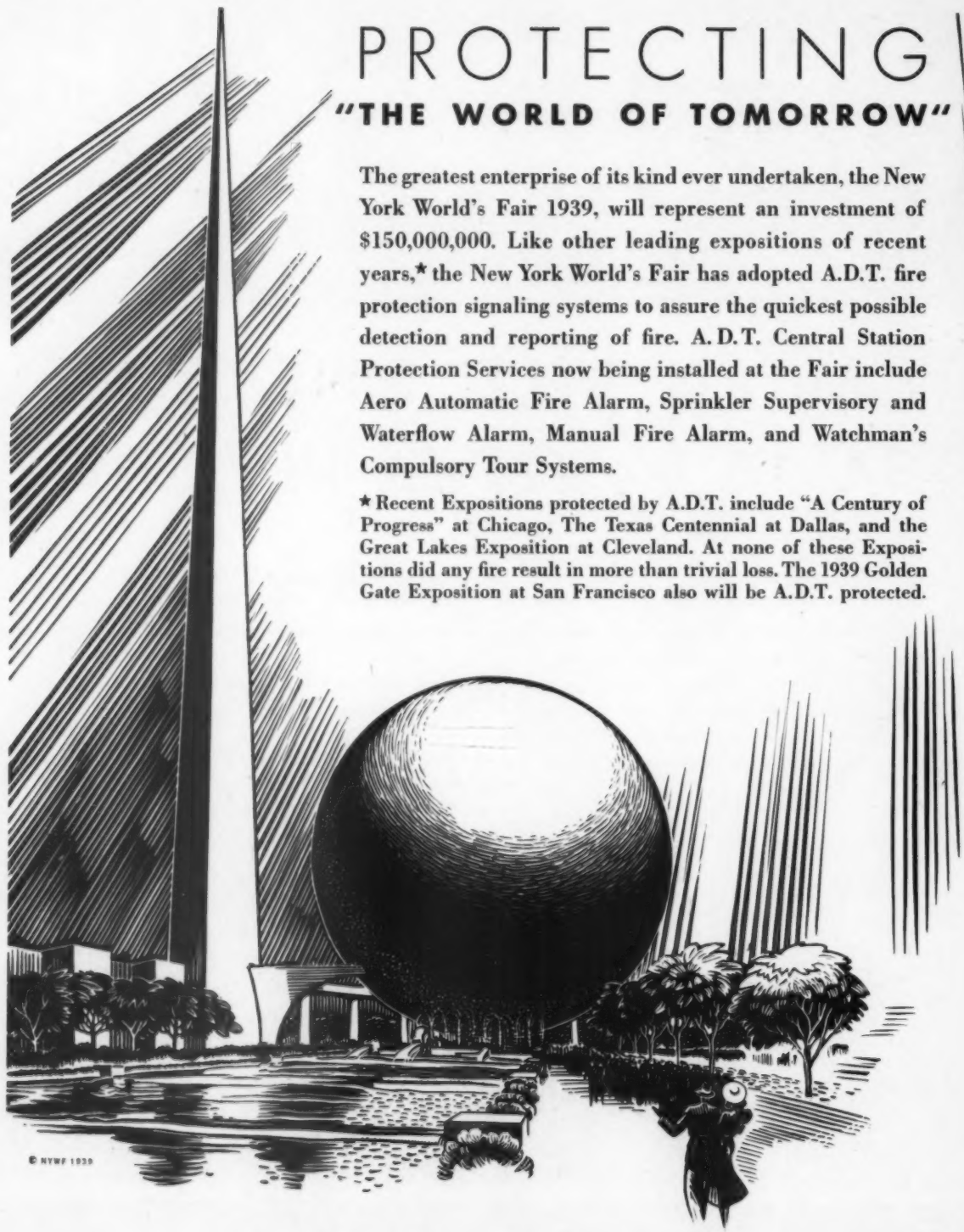
AMERICAN-LA FRANCE

Always in Front

PROTECTING
"THE WORLD OF TOMORROW"

The greatest enterprise of its kind ever undertaken, the New York World's Fair 1939, will represent an investment of $150,000,000. Like other leading expositions of recent years,* the New York World's Fair has adopted A.D.T. fire protection signaling systems to assure the quickest possible detection and reporting of fire. A. D. T. Central Station Protection Services now being installed at the Fair include Aero Automatic Fire Alarm, Sprinkler Supervisory and Waterflow Alarm, Manual Fire Alarm, and Watchman's Compulsory Tour Systems.

*** Recent Expositions protected by A.D.T. include "A Century of Progress" at Chicago, The Texas Centennial at Dallas, and the Great Lakes Exposition at Cleveland. At none of these Expositions did any fire result in more than trivial loss. The 1939 Golden Gate Exposition at San Francisco also will be A.D.T. protected.**



Controlled Companies of AMERICAN DISTRICT TELEGRAPH COMPANY
155 Sixth Avenue, New York, N.Y. • Central Station Offices in all Principal Cities

A·D·T

Electric Protection Services
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION

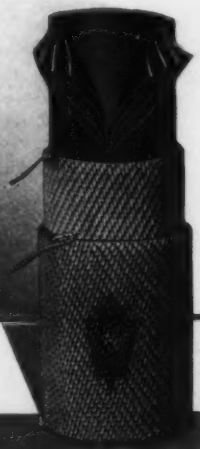
WHY DO WE MAKE GENUINE WAX AND PARA GUM TREATED FIRE HOSE?

1 BECAUSE— No other treatment has been invented that is as effective as FABRIC *GENUINE* WAX and PARA GUM TREATMENT in combating the destructive effects of mildew-rot.

2 No other treatment has been invented that repels moisture as well as the FABRIC *GENUINE* WAX and PARA GUM TREATMENT. This is especially important in sub-freezing temperatures — because ice can never form *in the jacket*. Consequently the hose always remains pliable.

3 No other treatment has been so widely accepted as a standard requirement in fire hose.

Since 1881 we have made (and until a better treatment for fire hose is perfected, we shall continue to make)
FABRIC *Genuine* WAX and PARA GUM TREATED FIRE HOSE



FABRIC FIRE HOSE COMPANY

FACTORY
SANDY HOOK
CONNECTICUT

GREATEST NAME

SEAGRAVE

. . . SEAGRAVE Aerial Ladder Trucks are now fitted with

is revolutionizing fire truck design. *Once again* Seagrave

SAFETY GLASS THROUGHOUT, OF COURSE . . . ALL-METAL TOP COMPLETELY SEATING CAPACITY . . . FOR ENTIRE CREW WITH NO NEED TO STEP FOR RIDING . . . GENEROUS RUNNING BOARDS . . . FINE CANOPY CAB IN KEEPING WITH FAVOR WHEREVER SEAGRAVE APPARATUS IS SHOWN

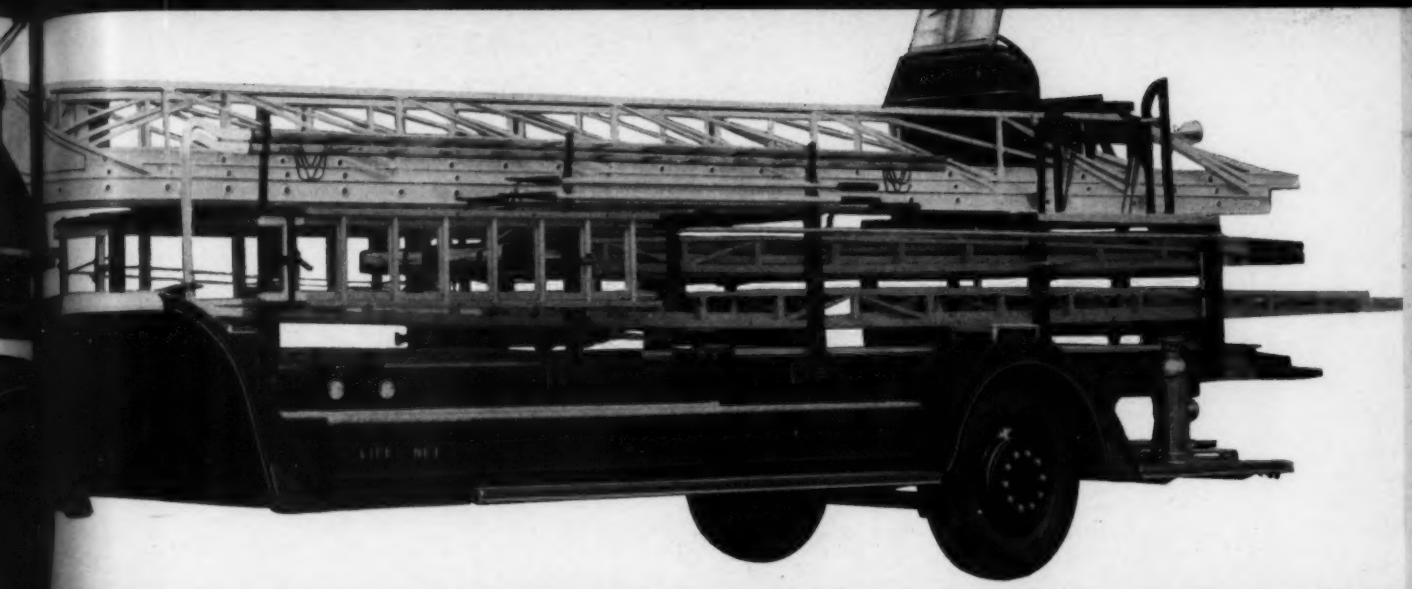
[THE MUNICIPALITIES LISTED BELOW ARE PROTECTED BY SEAGRAVE ALL - STEEL AERIAL LADDER TRUCKS]

Seagrave has sold more metal ladder aerial trucks than all other makers combined

Abilene, Texas
Arlington, Mass.
Belmont, Mass.
Birmingham, Ala. (2)
Columbus, Ohio
Crawfordsville, Ind.
Des Moines, Iowa
Dover, Del.
Detroit, Mich. (3)
East Chicago, Ind.
East Providence, R. I.
Erie, Pa.
Evanston, Ill.
Fall River, Mass.
Forest Hill, Ontario
Framingham, Mass.
Glen Ridge, N. J.
Johnstown, Pa.
Kitchener, Ontario
Lancaster, Ohio
Lansing, Mich.
Longview, Texas
Lorain, Ohio (2)
Los Angeles, Calif.
Lowell, Mass.
Moscow, Idaho
Mt. Clemens, Mich.
New Haven, Conn.
Owensboro, Ky.
Pasadena, Calif.
Phoenixville, Pa.
Pocatello, Idaho
Portland, Maine (2)
Revere, Mass.
Richmond, Ind.
Rome, N. Y.
Scituate, Mass.
Seattle, Wash.
Shreveport, La.
Silver Spring, Md.
South Orange, N. J.
Springfield, Ohio
Staunton, Va.
Sterling, Ill.
Suffern, N. Y.
Three Rivers, Quebec
Troy, Ohio
Victoria, B. C.
Wenatchee, Wash.
Wooster, Ohio

SEAGRAVE

GREATEST NAME



IN FIRE APPARATUS

leads the way

he sensational new CANOPY CAB, an exclusive feature that ntroduces equipment that will set the pace for tomorrow

The Canopy Cab incorporates all the features of the fully enclosed, all-steel body and offers still more . . . It seats the entire crew comfortably . . . makes it unnecessary for men to ride running boards, and gives greatly increased protection to the crew in case of collision or side swipe.

The All-Steel hydraulically operated ladder with which the truck is equipped was also pioneered by Seagrave. It is conceded by authorities to be the lightest and safest aerial ladder ever produced. Its features are fully covered by patents. No bolts or rivets are used . . . no holes drilled to weaken the construction. The Seagrave ladder is welded throughout . . . made of modern alloy steel . . . no excess weight . . . not affected by heat.

Never failing hydraulic power is used to manipulate the ladder quickly and easily into position.

No other Aerial Ladder in the field offers comparable safety, strength, and maneuverability. No other Aerial Ladder truck has EVER met with higher praise from the men who use it.

The word goes out everywhere the New Seagrave Aerial is seen . . . "Seagrave Leads Again".

THE SEAGRAVE CORPORATION

COLUMBUS, OHIO

R A V E

IN FIRE APPARATUS

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD, Associate Editor

FRED SHEPPERD, Editor

N. N. WOLPERT, Assistant Editor

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This Mighty Grip

IS WHAT EVERY FIRE TRUCK NEEDS

FIRE-FIGHTERS have to take all kinds of chances in crowded traffic . . . on all kinds of roads . . . in all kinds of weather. That's why every piece of apparatus needs the greater safety of the Goodyear All-Weather tread.

Those sturdy diamond blocks take hold in mud and snow with powerful go-ahead traction. Their knife-sharp edges resist skidding in all directions on slippery pavements—give you firm footing on unpaved roads. They give you road-holding grip to cut corners—*to save time safely!*

Underneath this famous tread, reenforcing its strength and endurance is patented Supertwist cord in every ply—a far stouter, more resilient body than any ordinary cord.

Just compare these *two* most important features of any tire—tread and carcass—and your next tires will be Goodyear All-Weathers!

LIFEGUARD, *a registered trade-mark of The Goodyear Tire & Rubber Company, fully protected by patents.*

Complete your safety with
GOODYEAR LIFEGUARDS
—the only sure protection against blowout accidents
CASING FAILS!
TUBE BLOWS!
RESERVE TIRE
SAFE ON LIFEGUARD!
The Goodyear LifeGuard replaces the conventional inner tube inside your tires with a "reserve tire" built within a tube. Should casing and tube fail for any reason this "inner tire" retains enough air to keep the truck under perfect control—without lurch or sway—until you can come to a safe, normal stop. And that means at the fire, in most cases, LifeGuards can be installed in any make of tires—on any size and make of fire apparatus.

THE GREATEST NAME IN RUBBER

GOODYEAR

TIRES and LIFEGUARDS

STREAMLINE SEDAN TYP

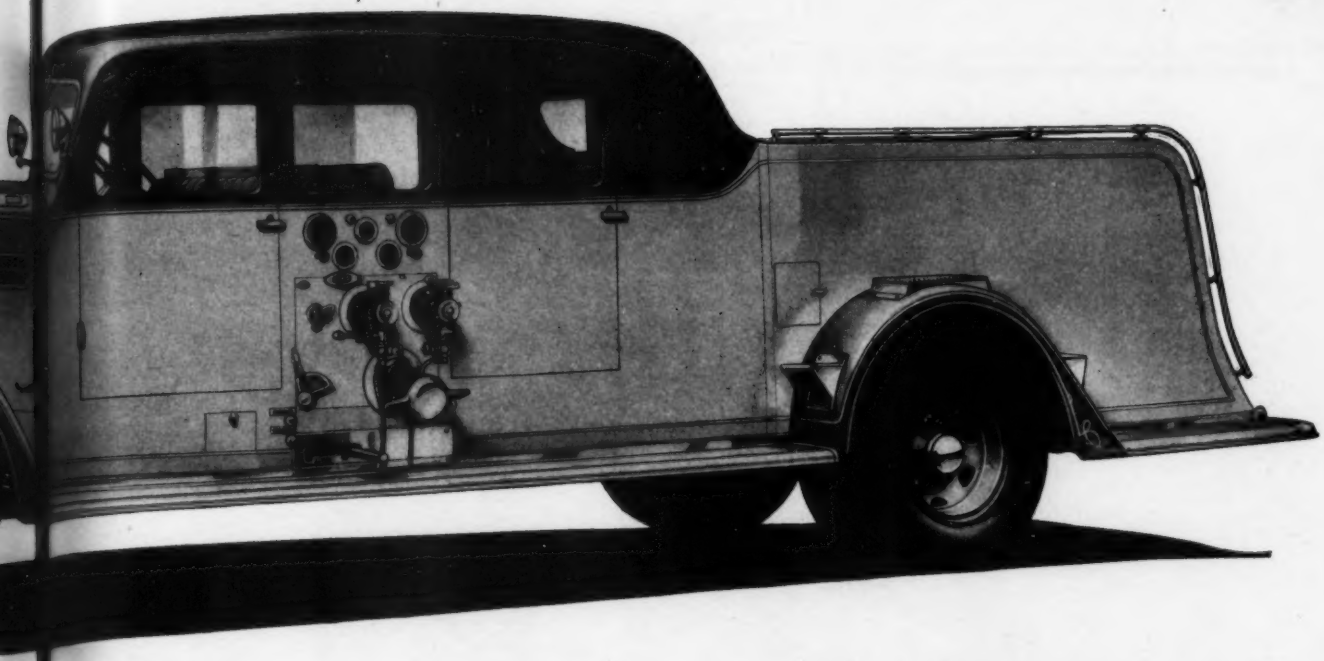
The PUMPER THAT HAS EVERYTHING

and powered with the biggest modern engine in fire service

935 CUBIC INCH DISPLACEMENT
610 POUNDS FEET TORQUE

TORQUE IS WHAT TAKES YOU OVER THE HILLS

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*



TYPE PUMPING ENGINE

This modern enclosed pumping engine was built by Pirsch for the progressive city of Chicago. It represents the last word in fire apparatus engineering—it has everything:

1500 Gallon, four-stage centrifugal pump—

9-man, all-metal four door body fitted with safety glass throughout—

Wheelbase, 203". Length, 27'; weight, loaded, 22,000 lbs.

PETER PIRSCH & SONS CO.

KENOSHA, WISCONSIN

AMERICAN-MARSH PUMPS

Announcing

THE LATEST IN FIRE PUMP DESIGN

***Something* NEW · DIFFERENT · OUTSTANDING**

SEND THIS COUPON TODAY

Without obligating me, please send literature covering Barton Front-Mounted and Midship Fire Pumps.

NAME.....

ADDRESS.....

THIS new model DUPLEX MULTISTAGE PUMP (Patent Applied for) with new and exclusive engineering features will be demonstrated by electric power during the International Fire Chiefs Convention at New Orleans, and at certain times during the Convention will be demonstrated in connection with a complete fire truck chassis near the Convention Auditorium.

Our exhibit will include as usual our Barton Front-Mounted Pumps. They, too, will be demonstrated by truck.

All those attending the Convention are cordially invited to visit our display. Those who are unable to attend are requested to write for literature descriptive of the Barton-American Duplex Multistage and Barton Front-Mounted Fire Pumps. Use coupon for convenience and identification.

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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 91 SEPTEMBER, 1938 No. 9

With the Editor

At the Threshold The New Orleans Conference of the International Association of Fire Chiefs, to be held on September 27-30, will witness the embarking of the Association on a nationwide educational program in the fire service, which holds tremendous possibilities. True, the Association has been nursing along a "program" since Chief R. J. Scott, then President, introduced it at the Winnipeg Conference in 1930, but most of the progress made in the interim resulted from other interested organizations taking up the work.

The story should be different from now on. The Headquarters Staff has been augmented by the addition of a capable Engineer, experienced in the conduct of fire schools, who will devote his time to organization of training programs throughout the country. Revenues have been greatly increased, through the work of President D. B. Tierney and his aides. The cooperation of the Federal government has been secured, and State Boards of Vocational Education are ready to join in this outstanding activity.

It is a far cry from the early "fire colleges," established by Chief John Kenlon in New York in 1909 and subsequently by other cities, to the modern firemen's training school conducted on a statewide basis. But the pioneering work accomplished by those early attempts has had a very marked effect on the present program. The value of fireman training was proved by the early fire colleges. The seed of the present educational movement was sowed by them.

It should prove a continued source of gratification to the officers and members of the International that this association took the first step toward organized training of firemen. There will be even greater satisfaction in the successful culmination of the program on which the organization is embarking.

The International Association of Fire Chiefs is now at the threshold of the greatest work it has ever undertaken. There can be no failure. The reputation and the future of the organization are at stake. A splendid start has been made; cooperation is offered from all sides; the demand for fireman training is more pressing today than ever. The reward of success, measured in human lives and property, will be stupendous.

The prize is worth the best effort that can be put forward. The task has been undertaken—let it be carried forward to completion!

Fred Sheppard

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What Fire Departments Are Doing in Fire Prevention

Survey of 127 Typical Cities, Ranging from Population of 4,000 to 7,000,000 Shows Interesting Facts on Fire Prevention Activities of Fire Departments

IN an effort to obtain a representative cross section of fire prevention activities of departments throughout the country, a questionnaire was mailed to approximately 200 Fire Chiefs, in cities large and small, in the forty-eight states of the Union. Of the 200 questionnaires mailed, replies were received from 127, repre-

CITY AND STATE	POPULATION	Have you a Fire Prevention Bureau?	How many inspectors?	If no F. P. Bureau, who makes fire prevention inspection?	FREQUENCY OF INSPECTIONS: Factories	Business Buildings	Stores	Theatres
New York, N. Y.	6,930,446	Yes	504	.....	.....	.....	.....	Daily
Detroit, Mich.	1,568,662	Yes	16	.....	Annually	Annually	Annually	Weekly
Baltimore, Md.	804,874	Yes	165	.....	Semi-Monthly	Semi-Monthly	Semi-Monthly	Semi-Monthly
Boston, Mass.	781,188	Yes	60	.....	Monthly	Quarterly	Quarterly	Weekly
Cincinnati, Ohio	451,160	Yes	...	.....	.....	.....	.....	.....
Kansas City, Mo.	399,746	Yes	8	.....	Monthly	Monthly	Monthly	Monthly
Louisville, Ky.	307,745	Yes	4	.....	Semi-Annually	Semi-Annually	Semi-Annually	Quarterly
Worcester, Mass.	195,311	Yes	2	.....	Bi-Monthly	Bi-Monthly	Bi-Monthly	Bi-Monthly
Oklahoma City, Okla.	185,389	Yes	9	.....	Every 60 days	Every 90 days	Every 90 days	Every 30 days
Hartford, Conn.	164,072	Yes	...	Members of Fire Dept.	3-4 times a year	3-4 times a year	3-4 times a year	Daily
Fort Worth, Texas	163,447	Yes	4	.....	Semi-Monthly	Semi-Monthly	Semi-Monthly	Semi-Monthly
New Haven, Conn.	162,655	Yes	22	.....	Semi-Annually	Semi-Monthly	Semi-Monthly	Daily
Nashville, Tenn.	153,866	Yes	2	Members of F. D. make quarterly inspection	Quarterly	Quarterly	Quarterly	Quarterly
San Diego, Calif.	147,995	Yes	5	.....	Annually	Annually	Annually	Weekly
Long Beach, Calif.	142,032	Yes	5	.....	.....	.....	.....	Weekly
Norfolk, Va.	129,710	Yes	2	.....	Semi-Monthly	Semi-Monthly	Semi-Monthly	Weekly
Jacksonville, Fla.	129,349	Yes	3	.....	.....	.....	.....	.....
Trenton, N. J.	123,356	No	...	Men in companies	Monthly	Monthly	Monthly	Twice daily
Chattanooga, Tenn.	119,798	Yes	35	.....	Monthly	Monthly	Monthly	Monthly
Cambridge, Mass.	113,643	Yes	...	.....	.....	.....	.....	.....
New Bedford, Mass.	112,597	Yes	2	.....	Annually	Annually	Annually	Annually
Peoria, Ill.	104,969	Yes	1	Entire Dept.	Monthly	Monthly	Monthly	Monthly
South Bend, Ind.	104,193	No	...	Firemen	Monthly	Monthly	Monthly	3 a week
Waterbury, Conn.	99,902	Yes	3	.....	.....	.....	.....	Daily
Savannah, Ga.	85,024	Yes	4	Entire Dept.	Regularly	Regularly	Regularly	Daily
Saginaw, Mich.	80,715	Yes	24	.....	Semi-Annually	Quarterly	Semi-Annually	Quarterly
Sioux City, Iowa	79,183	No	...	Members of Dept.	Semi-Monthly	Semi-Monthly	Semi-Monthly	Semi-Monthly
Pasadena, Cal.	78,086	Yes	2	.....	1-3 times a week	1-3 times a week	1-3 times a week	Semi-Monthly
Manchester, N. Hamp.	76,834	Yes	...	.....	Semi-Annually	Semi-Annually	Semi-Annually	Semi-Annually
Shreveport, La.	76,555	Yes	1	.....	.....	.....	.....	.....
Niagara Falls, N. Y.	75,460	No	...	Members of Dept.	3 times yearly	3 times yearly	3 times yearly	3 times yearly
Portland, Me.	70,810	No	...	Members of Dept.	Monthly	Monthly	Monthly	Sev. times a wk.
Springfield, Ill.	71,864	Yes	1	.....	Annually	Semi-Annually	Semi-Annually	Semi-Annually
East Orange, N. J.	68,020	No	...	Reg. members of force	.....	.....	.....	.....
Johnstown, Pa.	66,993	No	...	Members of Dept.	Monthly	Monthly	Monthly	Monthly
Montgomery, Ala.	66,079	Yes	4	.....	Quarterly	Monthly	.....	Weekly
Covington, Ky.	65,252	Yes	1	.....	Daily	Daily	Daily	Weekly
Brockton, Mass.	63,797	Yes	2	Augmented by members of force	Quarterly	Quarterly	Quarterly	Quarterly
Terre Haute, Ind.	62,810	Yes	4	.....	.....	.....	.....	.....
Glendale, Calif.	62,736	Yes	2	.....	Monthly	Monthly	Monthly	Monthly
Mount Vernon, N. Y.	61,499	Yes	2	.....	Annually	Semi-Annually	Quarterly	Daily
Decatur, Ill.	57,510	No	...	City Firemen	Quarterly	Quarterly	Quarterly	Monthly
Cedar Rapids, Iowa	56,097	No	...	1 Full-time Fire Inspector	9 inspections a year	9 inspections a year	9 inspections a year	9 inspections a year
Jackson, Mich.	55,187	Yes	5	.....	Monthly	Monthly	Monthly	Weekly
Kalamazoo, Mich.	54,786	No	...	3 Captains	.....	.....	.....	.....
McKeesport, Pa.	54,632	Yes	2	.....	Quarterly	Quarterly	Quarterly	Quarterly
Macon, Georgia	53,829	Yes	2	.....	Quarterly	Weekly	Weekly	Daily
Greensboro, N. C.	53,569	Yes	46	.....	Quarterly	Quarterly	Quarterly	Quarterly
Galveston, Texas	52,938	Yes	1	.....	Monthly	Monthly	Monthly	Monthly
Waco, Texas	52,848	Yes	1	.....	Monthly	Monthly	Monthly	Monthly
Durham, N. C.	52,037	Yes	6	.....	.....	Monthly	Monthly	Weekly
Cleveland Heights, Ohio	50,945	Yes	1	.....	.....	Every 6 weeks	Every 6 weeks	Monthly
Pueblo, Colo.	50,096	No	...	Asst. Chiefs	3 times a year	Quarterly	Quarterly	Monthly
Haverhill, Mass.	48,710	Yes	2	.....	Monthly	Monthly	Monthly	Monthly
Phoenix, Ariz.	48,118	Yes	1	.....	Quarterly	Quarterly	Quarterly	Quarterly

senting population of approximately 4,600 to 7,000,000.

In the tabulation below are given the essential facts as furnished through the questionnaires, and in such form that comparisons may be readily made.

It will be of interest to note that of the 127 cities reporting, 65, or 51 per cent, maintain Fire Prevention Bureaus. The balance, 60, reported no Fire Prevention Bureaus and one indicated that a Bureau is now in the process of formation. Fire prevention activities in one of the cities were reported to be under the direction of the State University, located in that city.

As to inspection of various types of buildings, the returns indicate that factory buildings are inspected at periods ranging from one month to one year. Business buildings are inspected anywhere from bi-monthly to yearly, while stores are inspected from three times a week to yearly.

Theatres, on the other hand, are inspected in most instances daily, although some of the departments make inspections only yearly.

Insofar as inspection of dwellings is concerned, 29 departments reported no inspections were made, while others stated that inspections were made only upon request.

Those cities inspecting dwellings conducted inspections from three times yearly to annually.

Of the 127 Fire Departments reporting, 67 have authority to order demolition of dilapidated buildings. This represents 53 per cent of those reporting. Sixty departments, representing 47 per cent, indicated that they did not possess the authority to order demolition of such structures.

Dwellings	Total No. of inspections a year	Has. Dept. authority to order demolition of dilapidated buildings?	Are you ever called upon to recommend types of fire ext. equipment for industries?	Do architects ever consult you on fire prevention measures in connection with their work in building design or alteration?	Have you a Code which enables you to enforce fire prevention regulations in factories and business buildings?	Are you ever consulted when changes in Building Code affecting fire prevention in buildings are being considered?
.....	1,250,000	No	Yes	Yes	Yes	Yes
None	34,546	...	Yes	Yes	Yes	Yes
None	41,587	No	Yes	Yes	Yes	Yes
Annually	400,000	No	Yes	Yes	Yes	Yes
.....	175,000	No	Yes	Yes	Yes	Yes
None	.....	No	Yes	Yes	Yes	Yes
None	14,000	Yes	Yes	Yes	Yes	Yes
Annually	76,999	No	Yes	Yes	Yes	Yes
None	75,000	No	Yes	Yes	Yes	Yes
Semi-Monthly	75,000	No	Yes	Yes	Yes	Yes
Annually	24,725	No	Yes	Yes	Yes	Yes
Semi-Annually	45,000	Yes	Yes	Yes	Yes	Yes
On request or complaint	15,000	No	Yes	No	Yes	Yes
On complaint	5,000	Yes	Yes	Yes	Yes	Yes
On complaint	5,941	Yes	Yes	Yes	Yes	Yes
On complaint	76,220	No	Yes	Yes	Yes	Yes
.....	.....	No	Yes	Yes	Yes	Yes
On complaint	24,000	Yes	Yes	Yes	Yes	Yes
On request	15,500	Yes	Yes	Yes	Yes	Yes
.....	15,000	Yes	Yes	Yes	Yes	Yes
Annually	1,500	Yes	Yes	Yes	Yes	Yes
.....	.....	No	Yes	Yes	Yes	Yes
Monthly	.....	Yes	Yes	Yes	Yes	Yes
On request	4,237	No	Yes	Yes	Yes	Yes
Annually	36,000	Yes	Yes	Yes	Yes	Yes
Annually	5,000	Yes	Yes	Yes	Yes	Yes
On complaint	.....	Yes	Yes	Yes	Yes	Yes
On request or complaint	24,930	Yes	Yes	Yes	Yes	Yes
.....	.....	Yes	Yes	Yes	Yes	Yes
.....	12,500	Yes	Yes	Yes	Yes	Yes
.....	7,500	Yes	Yes	No	Yes	Yes
Quarterly	15,000	Yes	Yes	Yes	Yes	Yes
On complaint	5,000	No	Yes	No	Yes	No
.....	4,766	Yes	Yes	No	Yes	Yes
Upon request	14,400	Yes	Yes	No	Yes	Yes
Annually	6,875	Yes	Yes	Yes	Yes	Yes
On complaint or request	4,000	Yes	Yes	Yes	Yes	Yes
3-family quarterly. Home inspection annually	23,000	No	Yes	Yes	Yes	Yes
.....	10,000	Yes	Yes	Yes	Yes	Yes
None	9,337	No	Yes	Yes	Yes	Yes
Annually	10,000	No	Yes	Yes	Yes	Yes
On request	4,500	No	No	No	No	No
On complaint	12,000	Yes	Yes	Yes	Yes	Yes
On complaint	7,500	Yes	Yes	Yes	Yes	Yes
.....	.....	...	...	...	...	...
On complaint	.....	Yes	Yes	Yes	Yes	Yes
Monthly	3,000	No	Yes	No	Yes	Yes
Annually	.....	Yes	Yes	Yes	Yes	Yes
On request	8,324	Yes	Yes	Yes	Yes	Yes
On request	8,000	No	No	No	Yes	No
.....	.....	Yes	Yes	Yes	Yes	Yes
Quarterly	29,911	No	...	No	Yes	Yes
Annually	2,400	Yes	Yes	Yes	Yes	Yes
Upon complaint	10,000	No	Yes	No	No	No
None	7,908	No	Yes	Yes	Yes	Yes

Recommending Equipment for Industries

Fire Chiefs have been commonly recognized as a source of information on methods of protecting specialized hazards against fire. It is not therefore surprising that 113 of the 127 Chiefs reporting indicated that they are called upon from time to time to recommend the type of fire extinguishing equipment needed in local industries. Fourteen Chiefs reported that they had never been called upon to render such service, but in many of these instances there were no large industries in the cities reporting.

Cooperation with Architects

That architects are conscious of the service that may be rendered by the head of the Fire Department is shown by the number of instances reported in which architects call upon the Fire Chief for data on fire prevention measures, in connection with their work in building design or alteration. Eighty-eight Chiefs, or 69 per cent of those reporting, indicated that they were consulted by architects in connection with new structures or alterations of old ones, while 39, or but 31 per cent, reported that they had received no such requests for help.

Building Codes

Although but 51 per cent of the departments reporting had Fire Prevention Bureaus, 117 cities, or 92 per cent, have fire prevention codes, while ten reported having no such codes.

Eighty-two per cent, or 104 Chiefs, are consulted when changes in Building Code affecting fire prevention in buildings are being considered, while 18 per cent, or 23 in number, are not so consulted.

The presentation of the information is possible through the courteous cooperation of Chiefs of Fire Departments in the cities listed. It is appropriate that this help be recognized, and the Editor expresses his deep appreciation of this unselfish and fine cooperation.

(Table continued on next page)

What Fire Departments are Doing in Fire Prevention (continued)

CITY & STATE	POPULATION	Have you a Fire Prevention Bureau?	How many inspectors?	If no F. P. Bureau, who makes fire prevention inspection?	FREQUENCY OF INSPECTIONS: Factories	Business Buildings	Stores	Theatres
Stamford, Conn.	46,346	No	...	Members of Dept.	Monthly	Monthly	Monthly	Daily
Waterloo, Iowa	46,191	No	...	1 Fireman	Monthly	Monthly	Monthly	Monthly
Lexington, Ky.	45,736	Yes	75% of Members of Dept.	.....	Every 2 weeks	Every 2 weeks	Every 2 weeks	Weekly
Lorain, Ohio	44,512	No	...	Regular Firemen	Semi-Annually	Semi-Annually	Semi-Annually	Semi-Annually
Chicopee, Mass.	43,930	One to be started this Fall	2	.....	Quarterly	6 times a year	6 times a year	Quarterly
Amarillo, Texas	43,132	No	...	Members of Dept.	Monthly	Monthly	Monthly	Monthly
Joliet, Ill.	42,993	Yes	1	.....	Semi-Annually	Quarterly	6 times a year	Weekly
Fitchburg, Mass.	41,700	No	...	All company officers	Monthly	Monthly	Monthly	Semi-Annually
Dubuque, Iowa	41,679	Yes	3	.....	Monthly	Monthly	Monthly	2 times a week
Ogden, Utah	40,272	Yes	2	.....	Quarterly	Quarterly	Monthly	Monthly
East Cleveland, Ohio	39,667	No	...	Company Officers	3 times a year	Quarterly	Quarterly	Quarterly
Meriden, Conn.	38,481	No	...	Members of Dept.	Semi-Annually	Semi-Annually	Semi-Annually	Semi-Annually
Bloomfield, N. J.	38,077	No	...	Members of Dept.	Semi-Annually	Semi-Annually	3 times a year	Weekly
San Bernardino, Calif.	37,481	Yes	1	.....	Monthly	Weekly	Monthly	Weekly
West New York, N. J.	37,107	No	...	Fire companies	Quarterly	Quarterly	Quarterly	Quarterly
Lewiston, Maine	39,948	No	...	Fire Chief	Monthly	Monthly	Monthly	Monthly
Amsterdam, N. Y.	34,817	No	...	Firemen	.....	.....	.....	Daily
West Allis, Wisc.	34,671	Yes	3	.....	Quarterly	Quarterly	Quarterly	Quarterly
Newport News, Va.	34,417	Yes	3	.....	Monthly	Monthly	Monthly	Monthly
Norwood, Ohio	33,411	No	...	Members of Dept.	Annually	Semi-Annually	Semi-Annually	Quarterly
Elkhart, Ind.	32,949	No	...	Firemen	Quarterly	Quarterly	Quarterly	Quarterly
Laredo, Texas	32,618	No	...	Fire Marshal	Monthly	Monthly	Monthly	Weekly
Wilmington, N. C.	32,270	Yes	1	.....	Monthly	Monthly	Monthly	Monthly
Muskogee, Okla.	32,026	Yes	1	.....	Quarterly	Quarterly	Quarterly	Quarterly
Port Huron, Mich.	31,361	No	...	Members of Dept.	.....	Monthly	Monthly	Monthly
Santa Ana, Calif.	30,322	Yes	1	.....	3 or 4 times a year	3 or 4 times a year	3 or 4 times a year	6 times a year
New London, Conn.	29,640	No	...	Chief & Fire Marshal only upon complaints	.....	.....	.....	.....
Fargo, N. D.	28,619	No	...	Members of Dept.	.....	Quarterly	Quarterly	Quarterly
Wyandotte, Mich.	28,368	No	...	Captains and Lieutenants	Annually	Annually	Annually	Annually
Newport, R. I.	27,612	No	...	Members of Dept.	Weekly	Weekly	Weekly	Weekly
Ann Arbor, Mich.	26,944	Yes	2	.....	.....	.....	.....	.....
Michigan City, Ind.	26,735	No	...	Fire Dept., City Electrician & Bldg. Inspector	Annually	Annually	Semi-Annually	Annually
Clinton, Iowa	26,726	No	...	Chief & Platoon of firemen	Semi-Annually	Semi-Annually	Semi-Annually	Semi-Annually
Bakersfield, Calif.	26,015	Yes	3	.....	Semi-Annually	Monthly	Monthly	Frequently without notice
Johnson City, Tenn.	25,080	Yes	...	Fire Dept.	Quarterly	Quarterly	Quarterly	Weekly
Middletown, Conn.	24,554	No	...	Dept. Chief	Monthly	Monthly	Monthly	Monthly
Mason City, Iowa	23,304	Yes	2	.....	Weekly	Weekly	Weekly	Twice a week
Norwich, Conn.	23,021	No	...	Department Members	Occasionally	2 or 3 times a year	2 or 3 times a year	2 or 3 times a year
Freeport, Ill.	22,045	Yes	4	.....	Semi-Annually	3 times a year	Semi-Annually	3 times a year
Fort Dodge, Iowa	21,895	Yes	...	Department Members	Quarterly	Quarterly	Quarterly	Quarterly
Rome, Ga.	21,843	No	...	Department Members	Monthly	Monthly	Monthly	Monthly
Pomona, Calif.	20,804	No	...	2 Batt. Chiefs & off. shift members	Monthly	Monthly	Weekly	Daily
Pine Bluff, Ark.	20,760	Yes	5	.....	Quarterly	Quarterly	Quarterly	Quarterly
Bessemer, Ala.	20,721	No	...	Department Members	Monthly	Monthly	Monthly	Weekly
Tuscaloosa, Ala.	20,659	No	...	Asst. Chief & Captain	Monthly	Semi-Monthly	Semi-Monthly	Semi-Monthly
Inglewood, Calif.	19,480	No	...	Department Members	Semi-Annually	Monthly	Monthly	Monthly
Stratford, Conn.	19,212	No	...	Department Members	Semi-Annually	Semi-Annually	Semi-Annually	Semi-Annually
Beverly Hills, Calif.	17,429	Yes	3	.....	Quarterly	Quarterly	Quarterly	Quarterly
Pocatello, Idaho	16,471	No	...	Department Members	.....	.....	.....	.....
Milton, Mass.	16,434	No	...	Department Members	.....	.....	.....	.....
Whittier, Calif.	14,822	No	...	Asst. Chief & Captain	Quarterly	Quarterly	Quarterly	Semi-Monthly
New Castle, Ind.	14,027	No	...	Department Members	Annually	Quarterly	Quarterly	Quarterly
Urbana, Ill.	13,060	University Health Service	10	Urbana Fire Dept.	Semi-Annually	Semi-Annually	Semi-Annually	Monthly
St. Augustine, Fla.	12,111	No	...	Department Members	Monthly	Quarterly	Weekly	Weekly

What Fire Departments are Doing in Fire Prevention (continued)

Dwellings	Total No. of inspections a year	Has. Dept. authority to order demolition of dilapidated buildings?	Are you ever called upon to recommend types of fire ex. equipment for industries?	Do architects ever consult you on fire prevention measures in connection with their work in building design or alteration?	Have you a Code which enables you to enforce fire prevention regulations in factories and business buildings?	Are you ever consulted when changes in Building Code affecting fire prevention in buildings are being considered?
3-family	35,000	Yes	Yes	Yes	Yes	Yes
monthly						
On request	11,000	No	Yes	Yes	Yes	Yes
On request	16,874	Yes	Yes	Yes	Yes	Yes
On request	1,200-1,500	Yes	Yes	Yes	Yes	Yes
On request	.....	Yes	Yes	No	No	No
Annually	19,928	No	Yes	No	Yes	Yes
On request	2,500	Yes	Yes	Yes	Yes	Yes
Semi-Annually	25,623	Yes	Yes	Yes	Yes	Yes
On request or complaint	6,440	Yes	Yes	Yes	Yes	Yes
On request	2,500	Yes	Yes	Yes	Yes	Yes
On request or complaint	2,900	No	Yes	No	Yes	Yes
Semi-Annually	1,875	No	Yes	No	Yes	Yes
Annually	10,000	Yes	Yes	Yes	Yes	Yes
On request	4,500	Yes	Yes	Yes	Yes	No
Quarterly	14,000	Yes	Yes	Yes	Yes	Yes
Annually	3,000	No	No	No	Yes	No
On complaint	1,200	Yes	No	No	No	No
Upon request	4,000	Yes	Yes	No	Yes	No
On request or complaint	12,000	Yes	Yes	Yes	Yes	Yes
Annually	1,200	No	Yes	Yes	Yes	Yes
On request	.....	Yes	No	No	Yes	Yes
On request	4,000	Yes	Yes	No	Yes	No
Annually	.....	Yes	Yes	Yes	Yes	Yes
On request	6,000	Yes	Yes	Yes	Yes	Yes
.....	4,000	No	Yes	No	Yes	No
On request or complaint	1,800	Yes	Yes	Yes	Yes	Yes
Upon complaint	.....	No	Yes	No	Yes	No
On request	.....	Yes	Yes	Yes	Yes	Yes
On request	300	No	Yes	Yes	Yes	Yes
.....	.....	No	No	No	No	No
.....	300-400	Yes	Yes	Yes	Yes	Yes
On complaint	300	Yes	Yes	No	Yes	Yes
.....	.....	No	No	No	No	No
.....	18,000	Yes	Yes	Yes	Yes	Yes
On request	1,500	No	Yes	Yes	Yes	Yes
Monthly	6,500	No	Yes	Yes	Yes	Yes
.....	8,567	No	Yes	Yes	Yes	Yes
On complaint	.....	Yes	Yes	Yes	Yes	Yes
On request	600	Yes	Yes	Yes	Yes	Yes
On request or complaint	3,400	Yes	Yes	Yes	Yes	Yes
None	4,800	Yes	Yes	No	Yes	Yes
On request or complaint	10,792	Yes	Yes	Yes	Yes	Yes
Annually	5,000	Yes	Yes	Yes	Yes	Yes
Annually	.....	No	Yes	No	Yes	Yes
On request or complaint	3,600	No	Yes	No	Yes	Yes
Annually	15,000	Yes	Yes	Yes	Yes	Yes
On request or complaint	700	Yes	Yes	Yes	Yes	Yes
On request	4,500	Yes	Yes	Yes	Yes	Yes
On request	700	No	Yes	Yes	Yes	Yes
.....	.....	...	...	...	Yes	Yes
Semi-Annually	.....	No	Yes	Yes	Yes	Yes
.....	400	No	No	No	Yes	No
Apts. & rooming houses. Semi-Annually	300	No	Yes	Yes	Yes	Yes
.....	.....	No	Yes	...	Yes	Yes

Dynamite Bombs to Disperse Oil

The use of dynamite bombs is said to give good results along the Ohio Valley waterways where oil splotches are afire on the surface of the water.

The bomb is made up of four cartridges of forty per cent ammonia dynamite. The cords from the cartridges are connected in the center to a one foot length of wire which in turn is attached to a float. One of the cartridges has a blasting cap which is held to a one foot length of suitable fuse.

When an oil or gasoline splotch is seen on the waters, workers set out in boats, light the fuse, and drop the bomb as nearly in the center of the oil splotch as possible. The blast stifles the blaze and breaks up the oily film. It is said that one bomb can snuff out a burning oil film of 100 square feet area.

Device for Speeding Fire Runs

Beverly Hills, Cal., is experimenting with a device which, if extended throughout the main traffic arteries of the city, will prove a boon to fire companies speeding to a fire.

The device is simple, is free of moving parts, and requires no maintenance. An iron magnetic field is placed in the street over which the apparatus is to pass. In the car is placed a special magnetic coil. When the apparatus passes along the street, it energizes the magnetic field in the street, and that in turn sends along electrical impulses for operating whatever device is intended. In this case, it is the traffic light.

As fire apparatus or other emergency vehicle passes over the street, the special coil sets up a field around the core in the street, and a block or so ahead, the traffic light changes to red to give the oncoming apparatus a clear passage. The device can be so arranged that the lights will not change again until a certain number of seconds after the apparatus has passed. At present, the experimental light is set for forty seconds. If a second apparatus follows the first, the control switches back and gives each unit the full forty seconds.

The magnetic core in the street is operated only when the electric field set up by the coil in the car passes over it. If the switch for the coil in the car is not turned on, nothing happens as the car passes over the core, for no field has been generated.

The device has an interesting history. It started because Warner Baxter, the movie actor, had trouble with an automatic opening and closing device for a gate on his estate. This worked by radio impulses set up by his car. When he approached the gate, he set up the impulses by touching a button in his car, and the gate opening device functioned, because it was tuned to the same wave length. The trouble started when radio amateurs started to use the same wave length.

Mr. Baxter called in his electrician, K. L. Alexander, and the device described was the result.

Chief Lloyd Canfield, Beverly Hills, believes that this electrical mechanism is the answer to the perplexing problem of how to get fire apparatus safely through crowded streets, and how to cut down on apparatus accidents.

What Fire Departments are Doing in Fire Prevention (continued)

CITY & STATE	POPULATION	Have you a Fire Prevention Bureau?	How many inspectors?	If no F. P. Bureau, who makes fire prevention inspection?	FREQUENCY OF INSPECTIONS: Factories	Business Buildings	Stores	Theatres
Willimantic, Conn.	12,102	No	...	Department Members	Annually	Annually	Annually	Annually
Trinidad, Colo.	11,732	No	...	Department Members	Quarterly	4 to 10 times a year	4 to 10 times a year	Weekly
Huntsville, Ala.	11,554	No	...	Department Members	6 times yearly	Monthly	Semi-Monthly	Weekly
Boulder, Colo.	11,223	No	...	Dept. Members & Bldg. Inspector	.....	Semi-Annually	Semi-Annually	Monthly
Newton, Kansas	11,034	Yes	4	...	Quarterly	Quarterly	Quarterly	Often
Fort Collins, Colo.	11,000	Yes	2	.....	Daily	Daily	Daily	3 times a week
Brawley, Calif.	10,439	No	...	Department Members	.....	Semi-Annually	Semi-Annually	Semi-Annually
Ames, Iowa	10,261	No	...	Department Members	.....	Semi-Annually	Monthly	Monthly
Grand Junction, Colo.	10,247	No	...	Department Members	Monthly	Monthly	Monthly	Monthly
Marblehead, Mass.	8,868	No	...	Fire Chief	.....	.....	.....	.....
Cambridge, Md.	8,544	No	...	.....	.....	.....	.....	.....
Coeur d'Alene, Idaho	8,297	No	...	Fire Chief & men selected by Chief	.....	Semi-Annually	Semi-Annually	Monthly
Nampa, Idaho	8,206	No	...	Off shift of Department	Monthly	Monthly	Monthly	Monthly
Murphysboro, Ill.	8,182	Yes	5	.....	Monthly	Monthly	Monthly	Weekly
West Monroe, La.	6,566	No	...	Chief	Semi-Annually	Semi-Annually	Semi-Annually	Quarterly
Morgan City, La.	5,985	No	...	Chief	Semi-Annually	Semi-Annually	Semi-Annually	Daily
Savanna, Ill.	5,086	No	...	Department Members	.....	.....	.....	Annually
Staunton, Ill.	4,618	No	...	Fire Chief	.....	Annually	Annually	Annually

WHY GAMBLE WITH FIREMEN'S LIVES WHEN THE STAKE IS VALUELESS?

Risk Is Necessary When Life or Important Property Is Endangered, but Men Must Be Saved When the Stake Is Low

By George C. Tichenor

Deputy State Fire Marshal, and Honorary Battalion Chief, Los Angeles, Cal.

TODAY'S method of attacking and extinguishing the average fire, is far different and vastly improved from that of a decade or two ago. In those days almost every blaze, large or small, was "drowned out" with heavy hose streams, directed from a place of comparative safety. Damage from water nearly always equalled that caused by the fire itself, and frequently far exceeded the fire loss. Under today's methods, the actual source or seat of fire is first located and then is carefuly extinguished with lines and nozzles of small diameter. Efficient salvage work is also employed and water damage is thereby reduced to an absolute minimum.

Such methods of efficiency undoubtedly cause modern fire fighters to face somewhat greater risks than under the older system. Since they must operate inside, whenever conditions so allow and warrant, our present "Smoke-Eaters" may receive "larger portions," but this seems to be about the only increased penalty faced by them. Yet hardly a day passes that we do not learn of a fireman losing his life at some fire! *Why?* It emphatically is not due to any increased risks of the present day system.

Firemen's lives are seldom, if ever, lost at fires where something of value still lies involved! In most all instances these lives are lost gambling against nothing; taking unnecessary and foolish risks when there are "no stakes."

Occasionally, in the course of saving other lives, or performing rescue work, a fireman loses his own. That is one of the hazards and possible penalties faced by those in the Fire Service. In these particular instances the gamble may be definitely considered worthwhile, as the life of another person is at stake. It is because we value life itself above all else that we even risk our own to save that of another. To those whose lives are given in such a cause can go no greater glory.

But let us consider those lives that are lost needlessly, and where little of value, if anything at all, is at stake.

Recently, in a certain city, fire broke out in an old church and gained great headway before being discovered. The church involved had long been a "neighborhood eyesore." Outmoded and in dilapidated condition, no services had been held there for years. Nothing of value remained in the gaunt, tinder-dry shell of a building. Upon arrival of the first fire companies, nothing much remained of the building itself. Anyone could see at a glance it "was gone." Yet a fireman lost his life and two others were critically injured at this fire! And, in my opinion, needlessly.

Unnecessary Exposure to Danger

About all that remained of the building, when the first streams were in operation, was a tall, wooden steeple. Being on a corner location, with an alley at the rear, all operations should have taken place from the streets and alley. Nothing of value was at stake except nearby residences, and these were being well protected by second alarm companies. Yet, after the first few minutes, hosemen went inside this ghastly, smoldering derelict! Possibly they were ordered to do so. Possibly, due to the still heavy smoke, they couldn't see the teetering old steeple, its lower portion burned away. But those in charge outside could have seen it clearly. Even so, the crashing of the steeple a few minutes later took one life and made cripples of two other firemen.

In another city, three firemen were killed by a falling wall. This fire had completely gutted the interior of the building. Nothing whatever remained except two tall sections of wall. Although valuable adjoining property was saved from loss, nothing of any possible value remained of the building involved. Even the walls would have to be razed.

In the smoldering embers of what had been the interior, were three firemen. They were not engaged in any rescue or investigation work. They were just "wetting down and mopping up." The wetting down could have been done from outside, and nothing was left to mop up. A sudden gust of wind struck, and one of the weakened walls crashed, burying the three men under tons of

What Fire Departments are Doing in Fire Prevention (continued)

Dwellings	Total No. of inspections a year?	Has Dept. authority to order demolition of dilapidated buildings?	Are you ever called upon to recommend types of fire ex. equipment for industries?	Do architects ever consult you on fire prevention measures in connection with their work in building design or alteration?	Have you a Code which enables you to enforce fire prevention regulations in factories and business buildings?	Are you ever consulted when changes in Building Code affecting fire prevention in buildings are being considered?
.....	500	No	Yes	Yes	No	...
Semi-Annually	.....	Yes	Yes	Yes	Yes	Yes
Annually	500	Yes	Yes	Yes	Yes	Yes
On request	2,400	No	Yes	Yes	Yes	Yes
On request	500	No	Yes	No	Yes	Yes
Semi-Annually	13,929	Yes	Yes	Yes	Yes	Yes
.....	400	No	Yes	...	Yes	Yes
On request	500	No	Yes	No	Yes	Yes
Annually	.....	No	Yes	Yes	Yes	Yes
.....	.....	...	...	...	No	No
.....	.....	No	No	No	Yes	No
Upon request	.....	No	Yes	Yes	No	No
Upon request	4,000	Yes	Yes	Yes	Yes	Yes
Upon request	1,500	No	Yes	No	No	No
Annually	.....	Yes	No	No	No	No
.....	.....	No	Yes	Yes	Yes	No
.....	30 or 40	Yes	Yes	No	Yes	Yes
Annually	.....	Yes	...	No	Yes	No

bricks. Why were they there under those conditions?

It is needless to mention many other specific instances—you know of them yourselves. I think you will find that in almost every case, where a fireman's life was lost, it was lost when little of value remained. It is not the reasonable and unavoidable risks, but those uncalled for and unnecessary ones toward which attention should be directed.

Need for Calm But Quick Action

A fireman must act quickly. In his line of public service it is imperative. The same applies to each superior officer. But quick action should only follow careful observation. Hurried action, without consideration or observation, can be far worse than no action whatsoever. If someone had remained calm, had paused for one brief moment to first appraise the situation and consider possibilities, almost all of these tragic happenings could have been avoided. Those that lie in the future *can be avoided!* Let's spend a second to think first, to observe, and then go ahead and act.

Firemen will always risk their lives where other lives are at stake, and may even do so where some inanimate object of great financial or historic value is endangered. More power to them! But to risk one's own life, or permit another to risk his, when practically nothing is at stake, is the height of folly and nothing short of criminal. If the life of "Mr. or Mrs. Average Citizen" is worth saving, certainly the life of "Mr. American Fireman" is worth saving also.

If the "stake" is worth it, take a gamble. If no stakes actually remain, recognize that fact and work from a point of reasonable safety. Someone once said, "It's better to be a live coward than a dead hero." I cannot altogether agree to that statement. But I do say, "It's better to be a live hero than a dead fool."

Rhode Island Chiefs' Club Holds Outing

The Fire Chiefs' Club of Rhode Island enjoyed a clam bake and outing on Sunday, July 17, at Haines Memorial Park, Barrington, R. I., being the guest of former Chief Daniel A. Nichols, of the Barrington Fire Department. A lunch was served at noon, followed by a sports program and bake at 5 o'clock.

A soft baseball game, captained by Ex-Battalion Chief Louis A. Cole, Providence Fire Department, won 10 to 9 from a team captained by Chief Harold A. Smith, Greenwood Volunteer Fire Department. A tug of war, led by Charles E. Keane, of Conimicut, won the contest from a team coached by Battalion Chief William A. Thornton. Other sports and the winners were:

Pipe race, Clinton Remington, Jr., Oakland; baseball throwing, young men, Albert George, Norwood; baseball throwing, old men, Louis A. Cole; fat men's 50-yard dash, Chief William V. O'Connell, North Liverton.

The Club committee, which assisted Chief Nichols, were:

Capt. Eugene Burrill, Walter E. Sholander, State Fire Marshal Frank Charlesworth, President of the Club; Benjamin De Angelis and Ex-Chief A. Robert Black.

Firemen Seize Holdup Man

Allen Brumfield, who single handed had staged a hold up in Seattle, Wash., and escaped with $7,500, has learned that it is bad luck to drive over a fire hose. In fact, if he had obeyed the universal department rule of not driving over the hose, he might still be at large.

Shortly after the holdup, the department of Renton, Wash., was called to put out a fire in an auto camp. A line of hose was stretched across the highway. The robber, inadvertently drove over the hose, so that he could reach a nearby roadstand for something to eat.

A state patrolman, who was helping to direct traffic, saw this and motioned the driver to the curb. But at this, Brumfield jumped from the car and ran. He was caught, and then the loot and a revolver were discovered.

The Chief Fire Problem at Horsham, Pa.

Norman and Wesley Ahn are identical twin brothers, but what makes the problem of greater interest to the residents of Horsham, Pa., is that they are both Assistant Chiefs of the Fire Department. They are so much alike that at their work (they are both gas stove assemblers), the twins can only be differentiated because they work at different benches. The boys were in grade school together, joined the fire company together and were elected to the office of Assistant Chief together.

It is Important to Know What is

Back of the Fire Hydrant

By FRED SHEPPERD

THERE is a limit to the quantity of water any hydrant will deliver. Some hydrants will give more than others, even if of the same make and same size. The differences in delivery are the result of differences in the water systems which supply the various hydrants.

The Fire Department's interest in the hydrant lies chiefly in what it can give in the way of water supply and pressure. What is behind the hydrant is frequently given no thought whatsoever by Fire Department officers.

Not only should the hydrant give the water immediately needed for supplying a pumper, but it should also have reserve capacity in the event of a large fire where it may be necessary to place additional demands upon it.

What Limits the Capacity of the Hydrant?

The capacity of the hydrant is limited by several factors. Probably first, and foremost, is the size of the main feeding it. As in fire hose, there is friction loss in water mains. But in the case of water mains, we usually have far less pressure than we are able to develop with fire engines. Therefore, there is far less pressure available for overcoming friction loss. Hence, friction losses must be proportionately less in water mains than in hydrants.

The size of the main determines, to a larger degree, the loss in pressure, due to friction, of the stream flowing through.

For example, with a four inch main carrying 1,000 gallons a minute, the friction loss may amount to 198 pounds per thousand feet, whereas, with a six inch main, carrying the same quantity, the friction loss may be but 28 pounds, or 1/7 as much. These figures are for new pipes of high quality, and laid straight.

Where the pipe is incrusted or tuberculated, the difference is greater.

From these figures, the tremendous importance of having mains of sufficient size to carry the necessary flow without great losses due to friction is evident.

Muddy Water Flowing from Main While Turbine Cleaner Is Passing Through

The second factor which has a very important bearing on the capacity of the hydrant is the length of the main feeding it, measured from the point where the main receives its supplies, to the hydrant.

If friction loss in 1,000 feet of six inch pipe carrying 500 gallons per minute is 7.5 pounds, the friction loss in 2,000 feet is just twice as much, or 15 pounds, and so on. Hence, the second important factor in determining the water available at the hydrant is the length of the main feeding it.

The third factor, and it is a very important one, is the interior condition of the main.

When mains are newly laid, they have a very smooth interior. After they have been in service for years, particularly if the water they convey is soft, they develop incrustations, or tuberculations, which interfere seriously with the smooth flow of water. As noted previously, soft waters are more corrosive to mains than hard waters, and in sections where surface supplies (usually soft waters) are used, the effects of corrosion are much more severe.

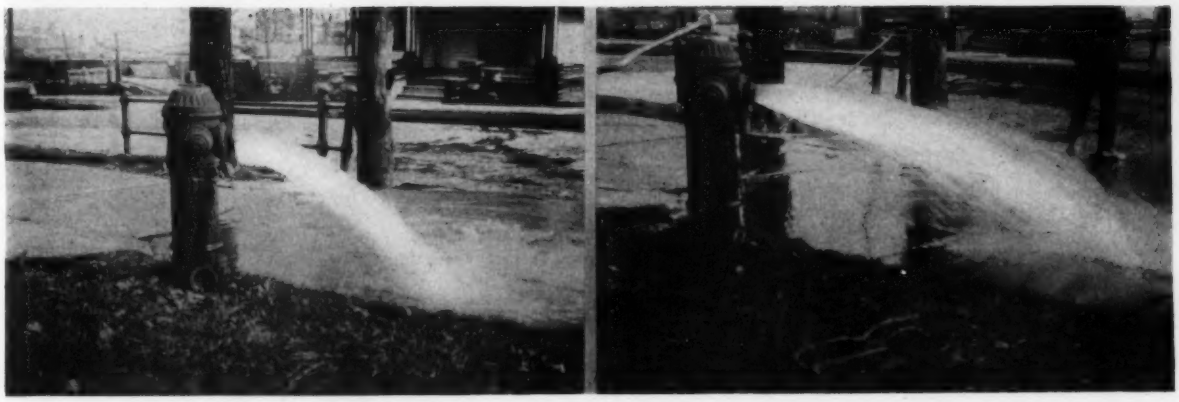
Herewith are tables of friction loss for, pipes of three different ages. These tables show quite clearly the effect of corrosion and tuberculation.

They show the friction loss for varying flow in new pipe recently laid, pipe after having been in service fourteen years and pipe after having been in service fifty years, carrying ordinarily corrosive water.

Table I.—Friction Loss in Cast Iron Water Mains in Pounds per 1,000 Feet

New Pipe of High Quality, Laid Straight

Flow in Gallons per Minute	Friction loss in pounds per 1,000 Feet	
	4 Inch	6 Inch
100	3.0	.8
200	10.5	1.2
300	22.0	2.8
400	35.0	3.9
500	55.0	7.5
600	78.0	10.7
700	105.0	14.0
800	134.0	18.6
900	166.0	22.8
1,000	198	28.0
1,100	232	33.0
1,200	265	38.0



What Cleaning a Main Does to Hydrant Flow. Left—Before Cleaning. Right—After Cleaning

As a matter of interest at this point, I would like to review just a few of these figures. Let us consider a line of four-inch pipe carrying 200 gallons per minute. The friction loss per thousand feet in new pipe is 10.5 pounds; in pipe fourteen years in service, 19 pounds; in pipe fifty years in service, 49 pounds.

Where the flow is 500 gallons per minute, the friction loss per 1,000 feet of four inch pipe, newly laid, is 55 pounds; pipe that has been in service fourteen years has a friction loss of about 105 pounds, while that which has been in service fifty years has a friction loss of 270 pounds per thousand feet.

Table 2.—Friction Loss in Cast Iron Water Mains in Pounds per 1,000 Feet

Pipe of Average Condition After Being in Service 14 Years

Flow in Gallons per Minute	Friction loss in pounds per 1,000 Feet	
	4 Inch	6 Inch
100	5	1.8
200	19	2.5
300	40	5.6
400	70	9.3
500	105	14.0
600	146	20.0
700	196	26.0
800	247	34.0
900	308	43.0
1,000	...	47.0

Table 3.—Friction Loss in Cast Iron Water Mains in Pounds per 1,000 Feet

Pipe of Average Condition After Being in Service 50 Years

Flow in Gallons per Minute	Friction loss in pounds per 1,000 Feet	
	4 Inch	6 Inch
100	14	3.0
200	49	5.5
300	105	14.0
400	178	24.0
500	270	37.0
600	378	52.0
700	503	68.0
800	643	89.0
900	800	106.0

This same ratio holds pretty closely through a long range of flows.

Because of this gradual change in capacity of a water main due to formation of roughness on the interior, which may be classed as tuberculation, corrosion, or incrustation, a main which gives a satisfactory supply upon its installation may, as the years roll by, prove to be unable to meet the demands which are placed upon it. Or, to put it otherwise, when a main is newly laid, it may give plenty of water to supply a first-size engine, but as the years pass, it may be found that a vacuum is created when the pumper is drawing the same amount of water from it. Incidentally, this tendency toward reduced carrying capacities in water mains is a very good reason why hydrants should be tested periodically to determine the flow therefrom.

Mains of small diameters, fed only at one end, are rarely satisfactory, if they run to any great length. To cut down friction loss in mains and to insure a dependable supply, the common design practice today is to cross-connect water mains in the system to form what is commonly termed a gridiron. In this way, if a big demand is placed on any part of the system, water may flow from several directions to that point, and by dividing the flow toward one point between several lines of pipe, the friction loss is reduced to a very small fraction of what it might be if it had to travel through a single line. However, it is frequently impracticable to cross-connect lines feeding suburban developments, particularly where the development is beyond the built-up limits of the city.

Water pressure in the system of a city may be satisfactory at some points and unsatisfactory at others. This difference in static pressure is caused by difference in elevation of the mains in question. Those mains serving high districts will show appreciably less pressure than those serving low districts, due to the less head creating the pressure. Every foot elevation represents a reduction in pressure of approximately .4 of a pound. It is to overcome this natural difficulty that in some cities special service is afforded to the high districts, and it is commonly known as "high service."

Pressure Available in the Main

And last, but by no means unimportant in bearing upon the capacity of the hydrant, is the pressure available in the main.

There are three types of water service commonly found in this country:

1. gravity pressure
2. domestic pump pressure
3. domestic and fire pressures

In the gravity system, water is supplied without pumping, and the pressure in the system depends upon the height of the water in the reservoir or storage tank above the point at which the pressure is read. In a gravity system, pressures at all points in the system of the same elevation will be identical, except in the event of heavy flows due to breakage of main, fire demand, etc.

It is not possible to increase the pressure in a gravity system in the event of fire, and if normal pressure is low, there is limitation to what the hydrant can supply, particularly when attached to a small main.

In the second system, commonly known as the direct pumping system, pumps are operated at all times to maintain pressure within the mains. It may or may not be possible to increase the pressure at the pump in the event of fire. If the pump is designed so as not to be able to offer additional fire pressure, then it is a

domestic pumping system. Here the pressure will probably be greater than the gravity system, but it cannot be increased in the event of fire, to make available to the Fire Department higher pressures at the hydrant.

The third type of water system is one in which the pressure in the main is supplied by pumping direct, but it is possible to step the pressure up in the event of fire. Of course, there is a limitation above which the pressure cannot be raised, due to danger to plumbing throughout the city.

In some cities and smaller communities, auxiliary storage tanks are provided, usually at a point across the city from the source of supply. These tanks, which are commonly known as "balancing tanks," receive water from the system in periods of small flow, and then when there is a heavy demand on the system, they aid in meeting this demand by returning the stored water to the system, thus reinforcing the supply.

What Happens When the Limit of Capacity of a Main Has Been Reached?

It is common experience that, when a pumper tries to take more water from a hydrant than the main will supply, a vacuum is created. This vacuum is indicated on the compound gage. What happens in this process is as follows: The water is drawn through the main at such a rate that the friction loss in the main from the point where it receives its supply to the hydrant amounts to more than the pressure in the system which tends to force the water through the main.

As a specific example, assume two 350-gallon per minute streams (1¼-inch nozzle at 58 pounds nozzle pressure) are wanted from a pumper attached to a hydrant. The main is one of a gravity system and the gravity pressure is forty pounds. The main is six inches in diameter and has been in service about fifteen years. It is not cross-connected, but is fed at one end—2,000 feet away.

Will the hydrant supply the required flow?

The friction loss in a six-inch main fifteen years of age, and of average interior condition, for a flow of 700 gallons per minute, is 26 pounds per thousand feet. As the length of the main is 2,000 feet, the friction loss will be 2 x 26, or 52 pounds. The gravity pressure is only 40 pounds. Hence, it is evident that the main will not deliver the desired quantity, because there is not enough pressure within it to force that quantity through the main and out of the hydrant. Incidentally, a four-inch main 1,000 feet in length, and fed only at one end, and of the same age, could not supply even 400 gallons per minute.

Of course, the pumper helps the water along by creating a vacuum, which may be considered as equivalent to so much additional pressure in the main, but there is a very definite limit to the amount of vacuum a pumper can create (10 pounds is a good average, and is equivalent to a water column lift of 23 feet.)

Of course, a vacuum at the pump is undesirable, for it has a tendency to cause air leaks, which interfere with the production of good, solid streams. And when soft suction is used, a vacuum may be very troublesome in causing interruption of flow through the soft suction.

It is always helpful to the pumper to have a residual pressure at the hydrant when the engine is in operation, for such residual pressure aids the pump directly.

For example, if residual pressure at the hydrant is forty pounds when the pumper is in operation, this pressure is transmitted with but very little loss through the pump (if it is of the centrifugal type) and enables the pumper to increase discharge pressure by practically that amount.

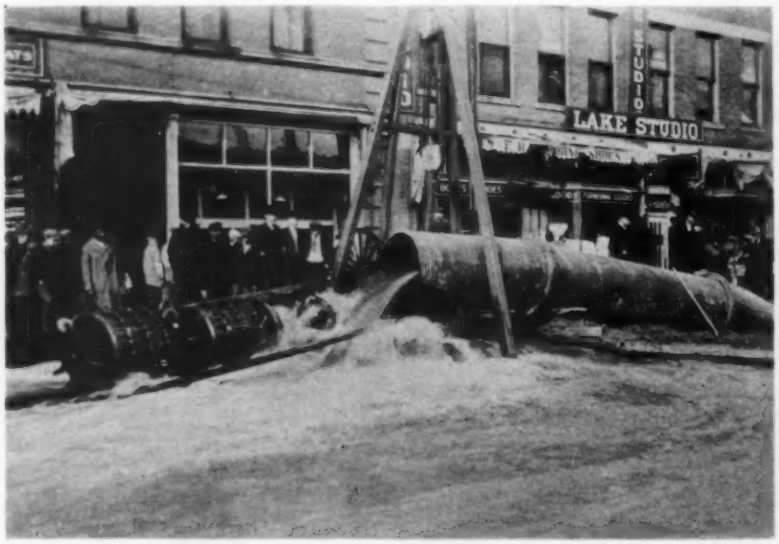
Tests Important

To make sure of capacities of water distribution systems, it is highly desirable that hydrants be tested periodically for flow. If the pressure within the system is good, the test may be conducted by using short lengths of hose with large nozzles, and employing pitot gages for determining the discharge pressure.

On the other hand, if the water pressure in the system is normally low, the above method of testing shows but a small part of the supply that can be obtained by engine from the system. In that case, the method of testing is by calculating the flow from open butts of hydrants.

In testing the water system in any particular locality, it is usually desirable to start with one hydrant, opening it up and measuring the flow; then a second hydrant is opened and, while both are flowing, readings are taken on both; then a third hydrant

(*Continued on page* 433)



Rotary Main Cleaner Just After Having Emerged from Pipe Line Undergoing a Cleaning

Table 4.—Discharge from Hydrants Where Pressures as Indicated Are Maintained at Hydrant Outlet

Pressure at Hydrant Outlet in Lbs. per Sq. In.	Discharge From Hydrant Outlet in Gallons per Minute		
	2½ In.	4 In.	4½ In.
1	170	430	550
2	240	610	770
3	290	750	940
4	340	860	1090
5	380	960	1220
6	410	1050	1330
7	440	1140	1440
8	480	1210	1540
9	500	1290	1630
10	530	1360	1720
12	580	1490	1890
14	630	1610	2040
16	670	1720	2180
18	710	1840	2310
20	750	1920	2440
25	840	2150	2720
30	920	2380	2990
35	990	2540	3210

(From tables appearing in "Fire Prevention and Protection" by A. C. Hutson)

Enclosed Apparatus Reduces Illness 50%

In Topeka, Kan., Fire Department, Time Out of Service from Illness Caused by Exposure to Weather Reduced from 33¾ Hours per Month to 16.9 Hours by Use of Closed Apparatus

By CHIEF WILLIAM J. CAWKER
Topeka, Kan.

IN presenting this discourse on my experience with enclosed fire apparatus, I would like to state first that, like all advancements in the useful, industrial or mechanical arts, the all-enclosed apparatus in my department was born of necessity. This necessity arose primarily through the action of our Board of City Commissioners entering into contracts for the furnishing of fire protection to properties outside the corporate limits, this fire protection service being given under authority of a legislative act adopted by the State of Kansas a few years ago and which permits cities of the state to enter into contracts with townships, individuals, groups of individuals, firms and corporations whose property is located outside the corporate limits, for the furnishing of fire protection, under such terms and conditions as the interested parties may agree upon.

Contracts to Protect Out-of-Town Property

Personally, I was opposed to the out-of-town contracts, basing my objections principally on the following facts: My department, like many other Fire Departments throughout the country, is under-manned and under-equipped; it is unquestionably poor policy to send a piece of heavy duty fire apparatus with 1,200 feet of 2½-inch hose and other fire-fighting appliances out into territory where nothing but the booster tank and hand extinguishers can be used, when the hose and pump might be sorely needed for the protection of city property; and further, the city taxpayer should be given the full amount of protection for which he is taxed and none of that protection should be removed at any time. In view of these expressed facts, I felt the department should not assume the added burden of protecting properties far removed from the corporate limits. Disregarding these objections, the authorities entered into contracts with three townships immediately adjacent to the city, declaring that, in order to maintain trade relations with the rural population, it was necessary to establish this service as a reciprocal measure.

Men Had to Be Protected on Long Runs

The combined area of these townships with which the city has contracts is approximately 150 square miles, and at times the response to alarms requires runs up to ten miles beyond the city limits. After these township contracts were in effect, companies were compelled to respond to alarms in severe winter weather and the members of the companies were subjected to severe exposure. It was not unusual for company officers to report that, upon these calls, by the time the companies arrived at the scene of the fire the men were in no fit physical condition to properly carry on fire-fighting activities. We soon realized, therefore, that it was necessary to provide the company personel with some degree of bodily protection from the elements, and it was this necessity that caused the advent of the all enclosed fire apparatus into the department.

Equipment of Enclosed Apparatus

Not being in possession of any information which indicated that any of the manufacturers of fire apparatus were building all-enclosed jobs, it was necesary that we determine upon a design which would amply fill our needs. After weeks of study and investigation, plans and specifications were drawn up for a fully-enclosed body; a chassis was purchased, and, after being built, the all-enclosed body was mounted theron. Inside this body was placed a 525-gallon tank, for we realized that if this was to be a useful piece of fire-fighting equipment for rural service, where water is not generally available, it would be necessary to carry water to the location of the fire. Further equipment consists of:

400 feet of ¾-inch booster hose, mounted on two reels; 600 feet of 1½-inch hose; 600 feet of 2½-inch hose; one 3-gallon acid extinguisher; one 3-gallon hand water extinguisher; two lengths of 4½-inch hard suction; one 28-foot extension ladder; one 14-foot roof ladder; one 10-foot folding combination attic and roof ladder; one 9-foot pike pole; one dozen three gallon buckets for use in replenishing the tank when water is available; axes, hand lanterns, highway torches, shovels, brooms, first aid kits, hydraulic jacks and other necessary miscellaneous tools.

Disposal of Hose and Pump

The booster hose reels are mounted inside the body in such a manner that the lines can be taken from the forward side openings; these booster lines are permanently connected to the pump and both can be used at the same time. The 600 feet of 2½-inch hose is carried in a wooden rack on top of the water tank; the 600 feet of 1½-inch hose is carried on the floor at the rear of the body, with pipes attached, so that two 300-foot lines are always ready for use. A 600-gallon Barton front-end, gear-driven pump is used and "Y" connections are provided, so that it is possible to work either two 1½-inch or two 2½-inch lines in conjunction with the two booster lines. With this arrangement it is possible to work four hose lines from this equipment simultaneously.

Value of Apparatus Soon Shown

This all-enclosed piece of apparatus soon demonstrated its value as an effective fire-fighting agency, not only in protecting the crew while responding to calls in severe weather, as well as giving them ample protection returning to quarters when they are wet and cold from fire-fighting activities and exposure, but further, its

(Paper delivered before Missouri Valley Association of Fire Chiefs in Convention at Boulder, Col., June 21 and 22, 1938.)

adaptability for combating fires in residences and other small structures.

Although this apparatus was conceived and constructed primarily for rural use, it has a first alarm response in the densely populated residential area, and we are relying upon it more and more as an effective fire-fighting unit. It is also a valuable auxiliary unit in handling fires in larger structures. We find it particularly of value from the fact that each of the booster lines and the 1½-inch lines are easily handled by one man and a fire can be attacked from four points at the same time; this is of particular advantage in preventing excessive water damage.

All Future Apparatus to Be Enclosed

City authorities were so favorably impressed with the features involved in this radical departure from the set standards of fire-fighting apparatus that there was no difficulty in obtaining acquiescence to the idea that all future orders for apparatus should be for the all-enclosed type. In the two years which have elapsed since the advent of the first all-enclosed job, four additional all-enclosed, all-steel body apparatus have been purchased for the service, namely, two 750-gallon pumpers, one 900-gallon pumper and one smaller unit similar to the first all-enclosed job.

Illness from Exposure Avoided

Another particular advantage we find in the use of the all-enclosed type of apparatus is the fact that the man power is not reduced through illness due to exposure in responding to alarms in severe weather, such as is experienced in the use of the open type. For example, for several years prior to the acquisition of the all-enclosed type of apparatus the average time out of service on account of illness caused by exposure to the weather was 33¾ hours per month, while the average time out of service from the same causes since putting the all-enclosed apparatus into use has been 16.9 hours per month.

Believes Enclosed Apparatus Will Become General

Just what is best and what will ultimately be accepted as standard for enclosed apparatus, is still a debatable question. Some have chosen the all-enclosed type and some merely the cab enclosure. However, I feel that in time the all-enclosed job will predominate. Exhaustive changes are affecting the fire-fighting service of today. No greater mistake can be made than to rely blindly on old standards at a time so filled with changing methods. The modern era of advanced engineering as it is being expressed in new standards of beauty, comfort and utility, will surely produce new apparatus which have the exact combination of capacity and performance, as well as ample protection for the operatives. These apparatus not only must possess physical properties to meet the demand and withstand the abuse incident to their use in modern fire-fighting service, but, because of the large amount of money invested in them, they must possess physical properties that will insure useful service over a long period of years. And finally, the two most important points which will determine the relative safety between the open type and the all-enclosed type of fire-fighting apparatus are: the protection of men in case of collisions and the protection and the preservation of their physical condition, when responding to and returning from alarms.

When this standard has been determined upon, perhaps then our daily papers and firemanic publications will have fewer accounts of collisions between fire apparatus and other automotive equipment, street cars, etc., which turned out seriously or perhaps fatally for the personnel of the fire truck.

Rescue and Salvage Car of Indiana Fire Association

Above is illustrated the rescue and salvage car of the Indiana Fire Association, Fire Department, Indiana, Pa., and constructed by a member of the department. It carries a lighting plant, oxy-acetylene cutting outfit, inhalator, gas masks, first aid kits, blankets, salvage covers, etc. It also has an electrically operated coffee urn and sterilizing outfit, and is always outfitted with a supply of tobacco and cigarettes.

One Dead in Dust Blast

A negro worker was killed and three others were badly burned when two dust explosions, only seconds apart, occurred at the Gillette Grain Company,

Lowering the Victim of the Dust Explosions

Nashville, Tenn. The dead man was trapped in the 220-foot elevator.

Fire broke out in a 30,000-bushel grain storage tank, adjoining the warehouse, within a few minutes. Flames were soon extinguished.

The first explosion was in the central elevator, but the second involved the entire plant. The force of the blasts were so great that every steel casement in every window was ripped loose, and a metal siding on a loading platform on the ground was blown over box cars on nearby railroad tracks.

The victim of the blast was wrapped in a salvage cover and lowered to the ground. Chief J. A. Scruggs said that his men were drilled at the training school on how to lower persons injured or killed in tall buildings.

Cooperative Methods Reduce Fire Hazards

Somerville, Mass., Razed 216 Unused Old Buildings at Cost to City of $175 a Year, and Improved Tone of Municipality

By JOHN C. McNALLY
Chief of Fire Department, Somerville, Mass.

SOMERVILLE had a problem. It was a problem that confronts many communities today. It was what to do with the large number of dilapidated buildings, including vacant dwellings, idle manufacturing plants, small sheds and barns. All these structures had outlived their usefulness.

Having a problem, the city also had a definite objective—to relieve the community of the unwelcome burden of these structures.

Two obvious paths lay open to us. The aldermen of our city are empowered under Massachusetts Law, Chapter 143, Section 3, to condemn unsafe structures. Under Chapter 143, Section 8, a special board composed of Building Commissioner, City Engineer, Chief, and a citizen named by these three may act in certain cases. These two methods we discarded, however, in favor of a third. We favored a campaign which would persuade rather than compel. Dealing with the individual, we wished to stress personal gains compatible with community interests. Our aim was to prove to each individual that he could help himself, and at the same time show commendable community spirit.

With a well-defined goal and a means with which to reach it, we set out to rid Somerville of some of its fire hazards. Somerville, Mass., is largely a city of homes, there being comparatively few manufacturing plants for a population of 103,000 people. There are approximately 15,000 dwellings within a total area of 4.5 square miles, with frame construction predominating throughout the city.

Problem Acute

The number of unused buildings became so great that immediate action was urgent. Considerable time was spent in a preliminary survey of the buildings to be included in our campaign. We enlisted the aid of the New England Insurance Exchange, as soon as we discovered that insurance rates on surrounding property were being increased, due to exposure from these fire menaces. The amount of exposure was in each case based on the size of the condemned building and its proximity to the adjoining property. We found that the New England Insurance Exchange was extremely cooperative. One of their engineers was assigned to devote as much time as necessary to this work. We selected one of our best Lieutenants, who was in charge of fire prevention, to devote his time to the demolition of buildings. The aid of the Mayor and the Board of Aldermen was enlisted to obtain a federal grant under what was known then as the Emergency Relief Administration. Later, the Works Progress Administration provided funds for salary purposes. At the present time, local welfare recipients are carrying on this demolition work.

We found that in almost every instance the owners were in no position to share in the cost of removal of the buildings.

Each owner was interviewed with the purpose of selling him the idea of the benefits he would receive in the form of reduced assessments, with a corresponding reduction in his taxes. He was told of the improvement in health conditions resulting from more air and sunshine in congested areas. Reductions in insurance rates for surrounding buildings and their contents were cited as further advantages. The benefits which would come to the community in the elimination of hideouts for neighborhood gangs and vagrants were emphasized. He was shown that the possibility of lawsuit for injuries suffered around the building was eliminated.

Buildings Bought by City

With the owner once convinced that there was a benefit common to him and the community, an agreement was made to buy the building for one dollar and other considerations. At times, as many as 175 men did the work of demolishing the buildings. Over a long period, the average was 60 men. Fortunately, no injuries were sustained by workmen at any time. Up to the present time, we have removed a total of 216 buildings, at a cost to the city of approximately $175 per year to cover tools and materials.

While the city does lose to some extent on a decrease in assessed realty valuation, the loss is minimized, since in most cases the original valuations are negligible. On the whole, however, we feel that the city is amply compensated for any such depreciation by the advantages it enjoys from the plan. The bricks were cleaned and some were used to build a new drill tower for the Somerville firemen. A boiler room for the Welfare Home was built from salvaged bricks and other materials. The stone from two B. & M. railroad stations was utilized to build a much needed field house and locker room at Powder House Park. The completed structure was valued at $15,000. Some of the lumber was used to build fences around razed property. The rest of the lumber was used for concrete forms in retaining walls, street, sewer and water projects. Short ends and broken boards were sent to welfare recipients for use as firewood. The cellars of the demolished buildings were filled in by surplus earth from various street, water and sewer projects.

Paper read before convention of New England Association of Fire Chiefs.

Approximately, 700 reductions in insurance rates on buildings and contents were effected. During the year 1934 alone, insurance rates were reduced on 494 buildings and contents, whose rates had been affected by the presence of the dilapidated structures. With children and vagrants no longer using the buildings for club-rooms and hide-outs, the number of alarms showed favorable results.

All Owners Cooperated

On the whole, we feel considerable satisfaction with the work accomplished in Somerville. In not one case did we feel it necessary to compel an owner to cooperate with us. Each one was ultimately able to see how he would gain, and each took considerable satisfaction in promoting the welfare of the community as a whole, while helping himself individually. He perceived that there was a whole-hearted desire to help him and he, in turn, was glad to help others. It is a source of satisfaction to feel that in spending $175 per year, so many advantages were gained: Reduced insurance rates, fewer fire alarms, more healthful sanitary conditions, reduced real estate tax bills, and the use of salvaged materials for necessary municipal purposes. Especially are we enthusiastic about the conviction that in most cases, necessary improvements and reforms may be brought about by educating the individual, so that he may see that his own interests are in harmony with those of the community. Our experiment seems to indicate that the individual is usually ready to cooperate if he is treated with tact and consideration.

I. A. F. C. ISSUES THE PROGRAM OF NEW ORLEANS CONVENTION

Many Important Subjects of Interest to Chiefs to be Considered at the Sixty-Fifth Annual Gathering on September 27 to 30

THE program of the sixty-sixth annual conference of the International Association of Fire Chiefs, which is to be held at New Orleans, La., on September 27 to 30, is as follows:

Tuesday, September 27

Registration 8 A.M. to 9:45 A.M.
Conference called to order 10:00 A.M.
Invocation.
Address of Welcome.
Response to Address of Welcome, by Chief Jos. N. Sullivan, Utica, N. Y.
President's Message, by Chief Daniel B. Tierney, Arlington, Mass.
Memorial Services.
Announcements.
Adjournment for Lunch.

Afternoon (2:00 P.M.)

Roll Call.
Adoption of minutes of preceding meeting.
Appointment of Committees.
Report of Secretary.
Report of Treasurer.
Report of Board of Auditors.
Reading of Communications.
Report of Sectional Organizations.
Reports of Standing Committees.
Topic No. 1: "A National Program for Dust Explosion and Fire Prevention," by David J. Price, Principal Engineer in Charge, Chemical Engineering Research Division, U. S. Department of Agriculture, Washington, D. C.
Topic No. 2: "Fighting Fires in Naval Stores," by Chief John H. Monroe, Savannah, Ga.
Topic No. 3: "Reducing or Controlling Fire Hazards of Air Conditioning Installations," by L. L. Lewis, Vice President and Chief Engineer, Carrier Corporation, Syracuse, New York.
Topic No. 4: "What the National Fire Prevention Committee of the U. S. Junior Chamber of Commerce Is Doing," by Captain Orville J. Emory, Chairman, Los Angeles, Cal.
Topic No. 5: "Home Dry Cleaning," a motion picture produced by the California State Fire Marshall Department.

Wednesday, September 28
Morning Session, 10:00 A.M.

Topic No. 6: "A Public Relations Program for Fire Chiefs," by L. W. Hutchins, President, Sheldon, Morse, Hutchins & Easton, Inc., New York, N. Y. (Director, Safety Research Institute).
Topic No. 7: Report of Committee on Fire Alarm Improvement, George Morley, Chairman; George L. Swan, National Board of Fire Underwriters, New York, N. Y.; Chief Selden R. Allen, Brookline, Mass.
Topic No. 8: "What's New in Fire Apparatus and Equipment," as told by the manufacturers.
Round Table.

Afternoon Session, 2:00 P.M.

Topic No. 9: The I. A. F. C. Educational Program.
Chief Ralph J. Scott, Chairman, Educational Committee, I. A. F. C.
Chief Daniel B. Tierney, President, I. A. F. C.
Frank Cushman, Consultant in Vocational Education of the U. S. Department of Education.
M. Norcross Stratton, Supervisor of Firemen Training, Mass. State Dept. of Education.
Fred Heisler, Director, Technical Training, Oklahoma A. & M. College.
George H. Fern, State Director of Vocational Education, Lansing, Mich.
Chief Frank Williams, Field Instructor, Texas Firemen's Training School, College Station, Texas.
Gifford T. Cook, Assistant Manager, I. A. F. C., New York.

Thursday, September 29
Morning Session, 10:00 A.M.

Topic No. 10: "The Future of the I.A.F.C.," by Chief Peter Steinkellner, Milwaukee, Wis.
Topic No. 11: "Preparing for War Emergencies" (A progress report of Committee), Chief and Commissioner J. J. McElligott, New York.
Topic No. 12: "Rural Fire Protection," by Harold P. Bowhay, State Forest Ranger, California Division of Forestry, Bakersfield, Cal.
Topic No. 13: "Fire Department Administration," by R. E. Ridley, Commissioner of Finance, Portland, Ore.
Topic No. 14: "Arson Control," by W. J. Scott, Fire Marshal, Toronto, Ontario, Canada.

Afternoon Session, 2:00 P.M.

Topic No. 15: Round Table.
(a) Should pensions be provided for volunteer firemen?
(b) How can the fire and life hazard caused by constructing false fronts or walling up the front windows of commercial buildings be controlled?
(c) What method do you employ for drying and storing fire hose?
(d) What do you consider the chief causes of fire apparatus accidents? What remedies would you suggest?
(e) What action should we take with regard to the present trend of having commercial and pleasure vehicles painted a Fire Department red?
(f) Should the Fire Chief have a say in determining the type of fire hydrant to be purchased?
(g) Would a dry pipe sprinkler installation solve the problem of church steeple fires?
4:00 P.M.—Dedication of Fire Service Trophy Room in Louisiana Museum, New Orleans, La.

Friday, September 30

Session called to order at 9:30 A.M.
Unfinished busines.
Report of Secretary as to Attendance.
New Business.
Selection of next year's Convention City.
Election and installation of Officers
Final Adjournment.

Morgan City to Buy Apparatus

Morgan City, La., has been authorized to borrow $50,000 towards the purchase of two new pieces of fire apparatus. One unit will be stationed at Morgan City and the other at Franklin to serve outlying country districts.

Rescue Squad in Service at Carlstadt, N. J.
A new rescue squad car has been placed in service at Carlstadt, N. J. It is completely furnished with rescue equipment and carries a Homelite floodlighting unit.

Points of View of Fire Problems

Manufacturers and Fire Department Heads Present Information Concerning Fire Questions Submitted by Readers

IT is through the general discussion of a problem, that much valuable information is frequently obtained.

A number of problems were submitted by readers. Because of their general interest, and to obtain the experience and viewpoints of many in the fire field, they were sent to fire department heads and to manufacturers for their answers.

It was through the generous cooperation of the readers of FIRE ENGINEERING that the experiences and opinions of so many in the field, was made possible. To the many who cooperated, the editors wish to express their appreciation.

Polishing Hose Couplings

Will the polishing of hose couplings, with the customary metal polishes, injure fire hose?

R. S. Wharton, Sales Manager, Quaker City Rubber Company, Philadelphia, Pa.: We know of no method, means or any solution that will permanently prevent brass couplings from corroding.

The only thing we can suggest is either to polish or buff the couplings on a buffing wheel and then possibly there is a lacquer or varnish that can be secured to be placed on the couplings as it is coated, to prevent it from tarnishing or being corroded.

We do not consider metal polishes harmful to couplings.

J. H. Green, General Manager, Eureka Fire Hose Division, U. S. Rubber Products, New York, N. Y.: The practice of polishing or cleaning hose couplings is harmful to hose, if regular cleaning fluids or pastes now on the market are used.

Most of these cleaning fluids or pastes have an oxalic acid base.

In using this cleaner, it is almost impossible to prevent some part of it getting on the hose fabric. We would strongly recommend that Fire Departments refrain from using metal polishes on their couplings. In my opinion, the best way to clean couplings is to simply use a dry stiff bristle brush.

M. B. Karrer, B. F. Goodrich Company, Akron, Ohio.: Strictly speaking, the ordinary types of metal polishes are used for the removal of corrosion, rather than its prevention. However, corroded brass couplings can be safely cleaned by the usual cleaning methods, provided a mild alkaline metal polish, free from any type of mineral oil, is used. This stipulation is necessary as a safeguard to protect the tube against deterioration, due to contact with any oily polish.

Where no corrosion exists, the dirt and stains can usually be removed by the use of mild alkaline washes. This treatment would not injure the hose.

The best method for prevention of corrosion of couplings would be to lacquer them occasionally with a clear lacquer.

Hugh Logan, Manager, Fire Hose and Supplies, American-LaFrance and Foamite Industries, Elmira, N. Y.: We would suggest that the best means of cleaning couplings would be the use of a household powder or similar cleaning materials that rely on the abrasive characteristics rather than any solvent carried in the polish or cleaning agency. We have no intention of actually specifying any particular brand of cleaning powder, but we have in mind,, powder such as Bon Ami, Dutch Cleanser, Sunbrite, etc.

Most metal polishes are acid and naturally such polishes would not be adaptable for cleaning couplings, where the yarn may be attacked by the acid. Metal polishes frequently contain gasoline, ammonia, oxalic acid, and other acids or acid materials. Any cleaning solution used should be neutral or slightly alkali in action, and under no circumstances should an acid reacting cleaning solution be used.

Clay Baird, President, Bi-Lateral Fire Hose Company, Chicago, Ill.: Acid in polishing compounds have proven injurious to fire hose and in some cases have made the hose useless.

I question whether the oiling of brass connections has the same lubricating effect, as does those of other metals. If the coupling is properly made, lubrication by oil or plumbago is not necessary.

Of course, any hose, where the couplings are dragged through sticky substances or dirt, should be brushed off carefully and cleaned with the proper ingredients, if required.

P. Tomnie, President, American Fire Hose Company, Passaic, N. J.: I suggest the use of a piece of thin metal, in the form of a collar, to be placed under the coupling, so that it will temporarily shield the fabric. This will prevent any metal polish from coming in contact with the hose. After the coupling is polished, the shield or collar is removed.

W. T. Cole, Fabric Fire Hose Company, Sandy Hook, Conn.: The problem has been submitted to a number of persons here, and the consensus of opinion is that there is no way of cleaning and polishing the attached old couplings, without injury to the hose, except by the use of metal polish or emery cloth, and plenty of elbow grease.

Gasoline Truck Fires

In general, what method would you employ for controlling a large gasoline truck fire in the business or closely built up district where many cars are parked along the curb, and where water alone is available for extinguishig operations?

Thomas H. Cotter, Chief, Providence, R. I.: I cite action taken by this department with gratifying results in extinguishing a fire that entirely enveloped a fully loaded gasoline tank truck, capacity 3,200 gallons.

Upon our arrival, we found the gasoline tank truck completely enveloped in fire caused by gasoline overflowing on to a hot exhaust pipe from the rear tank compartment. The explosion of the rear high pressure dual tires, due to excessive heat, added to the natural timidity of approach. Two compartments had been loaded and capped. The third compartment had been loaded, but was not capped due to instantaneous flare caused by gasoline overflowing on to the hot exhaust pipe. The driver of the truck was severely burned on hands and arms.

The surrounding property consisted of wooden loading platforms, and large gasoline and kerosene storage tanks about twenty feet away on one side. On the other side were two two-story brick and one three-story mill constructed buildings, with a power house and lumber yard nearby.

Immediately upon arrival, the department stretched two 2½-inch lines with 1⅛-inch tip on the pipes and tapped for foam. Taking opposite sides, we attacked with the water lines, using about fifty pounds pressure at the tip—first the tires, then the cab, and then, still from opposite sides, had streams hit each other over the fillcap opening to blanket the burning compartment and to cool the truck.

This brought gratifying results. The two streams striking each other over the fillcap opening minimized the oxygen content in the immediate area of the opening, and cooled down the other two compartments.

A possible catastrophe was averted by the immediate action of the department, for if foam had been awaited, at least seven minutes would have elapsed. Seven minutes heat from that intense fire would have brought about the expansion of the gasoline in the two capped compartments, resulting in an explosion. One does not need much imagination to picture what would have happened in such surroundings. The fire was put out in about three minutes, after water was turned into the lines.

M. P. Leonard, Chief, Erie, Pa.: On arrival, if we found that the fire was confined to the gasoline truck, the cab, or one of the compartment filling heads, lines would be laid to hydrants. Each pumper carries an extra playpipe with a Buffalo vapor tip, that can be used for a solid stream. From one to three lines should be able to control the fire.

An effort would be made to have parked cars moved, and where this is not possible, to cover the cars with a water line.

We had an experience of four 10,000-gallon tanks above ground and holding kerosene and gasoline, on fire through the gasoline vent. Fire was put out by crossing three water lines over the vent. The fire was out in twenty minutes. If we had vapor nozzles at the fire, the fire would have been put out in less time.

E. J. Seymour, Chief, Plattsburg, N. Y.: I would order all doors and windows closed on both sides of the street, to keep the gas fumes in the open air. I would order six lines of hose laid, three up-wind and three

down-wind. The outside lines would be used as a water curtain on both sides of the street on the buildings. The center line would be used to cool the fire and flush the street. If any of the buildings caught on fire, the center lines could be diverted to help the side lines. All cars within the block would be moved by hand, without starting the motor, especially on the "down-wind" side.

W. J. Gates, Chief, Glens Falls, N. Y.: Run hose lines with fog nozzles attached from the pumper, operating at 150 pounds pressure. Stop all incoming traffic to that block. Remove cars from along curb in the immediate vicinity. Spray sidewalks and pavement to prevent fire from entering catch basins, or other openings. As far as possible, remove all catch basins and manhole covers toward the outlet of the sewer system.

J. H. Davidson, Chief, Houston, Tex.: Several times we have had to fight just such fires. We used high pressure 2½-inch water lines with 1⅛-inch nozzle tips. This had a tendency to drive the gas fumes into the air and steam from the base of the fire. Where water is being used, the fumes are absorbed and the fire smothered.

At a recent oil refinery fire in this city, a tank of 1,250 barrels of kerosene exploded. We surrounded the fire with high pressure lines. The fire was confined to a small area. A battery of kerosene and gasoline tanks nearby was not harmed.

The frequent experience that this department has had with oil fires leads to the statement that any or all oil fires can be controlled where a good supply of water is available, using high pressure lines and 1⅛-inch tips.

Thomas R. Hartnett, Chief, Racine, Wis.: I would use plenty of fog nozzle streams.

Giles Dow, Chief, Stoughton, Wis.: If the fire did not involve the front of the truck, I would try to move it away from the parked cars. Should the driving compartments be involved, it might be pushed away. We have a pair of fog nozzles that work satisfactorily on low pressure. In this case, we would use the pumps and proceed to try to cut the flame from the burning surface, using streams opposite each other.

Eugene Schull, Chief, Shelby, Ohio: We would use fog nozzles on a plain water line.

Herman Steinfurth, Chief, Youngstown, Ohio: Circumstances surrounding these cases, the automobile age itself, is responsible for contributing in a large measure the danger and heavy losses we now have.

I would employ every possible means of safety, to remove all parked cars from danger zone or curb, while other fire companies lay sufficient lines and build a water wall around the burning truck.

It is important to keep the property well cooled, with as many available streams as possible. We have experienced success by using this method of attack on several occasions.

Revamping our entire gasoline transportation ordinance will prohibit the transporting of inflammable liquids through the business section other than small quantities.

J. L. McLane, Chief, Charleston, W. Va.: I believe I would play large streams on the buildings, while other lines were used, provided with fog nozzles, for smothering the fire.

Reducing False Alarms

Have you been able to reduce the number of false alarms in recent years? How was the reduction accomplished? What methods for reducing false alarms would you recommend to other departments?

Howard Travers, Chief, Baltimore, Md.: We have been unable to reduce the number of false alarms in recent years, but through the activities of the Police Department, we are accomplishing excellent results.

In my opinion, the installation of a device in conjunction with a box working simultaneously with the sounding of the alarm is the only method desirable to prevent this curse.

William H. Hill, Chief, Belmont, Mass.: This is strictly a residential town and the average number of false alarms over a period of five years has been eleven. These few alarms were pulled mostly in a district where there were boys' private schools. To stop the false alarms in this district, I installed a number of arresto-alarms on the boxes and I have found that this helps materially in stopping the false alarms.

Nick A. Phelan, Chief, Pittsburgh, Pa.: I have not been able to reduce the number of false alarms in recent years, because of a lack of cooperation on the part of the Police Department and the Police Magistrates. The small fines imposed has made such an offense a joke. Rather recently, a false alarm came in from a box at one of the most busy intersections of the city during the noon hour. This was done with two traffic officers on duty at the time.

It is my opinion that the number of false alarms can be reduced only by the cooperation of the Police and Fire Departments. If a city charter specifies a maximum fine and imprisonment that is not commensurate with the offense, I believe the magistrate should, on presentation of evidence of guilt, hold the offender for court.

In Pittsburgh, under the city charter, one cannot be fined for more than $25 or imprisoned for more than thirty days by a magistrate. If the case is held for court, the judge can, under a state law, sentence one found guilty of tampering with the fire alarm system or sounding a false alarm, to a fine of $500 or two years' imprisonment, or both. Giving publicity to the conviction would tend to dissuade those who sound false alarms for a joke.

R. J. Scott, Chief Engineer, Los Angeles, Cal.: We have not been able to bring about any considerable reduction in the number of false alarms received. During the past ten years, the percentage of false alarms to the total alarms received has ranged from 9.3 to 14.3 per cent. For the last two years, the percentage has been 9.3 and 10.3 per cent respectively.

We are putting forth considerable effort to reduce false alarms and we believe we have been successful, in spite of figures which do not seem to fullv support such contention. We feel that there would have been a decided increase during the same years, were it not for the fact that we have been continually carrying on an intensive campaign bv means of radio, press, and motion pictures. We assisted in making a sound picture entitled "Sounding the Alarm," now being distributed by the Aetna Casualty Company. This picture cannot fail to be impressive to audiences of all ages. We also have colored stickers placed over the glass in every street fire alarm box, bearing the words, "A false alarm may cost a human life," with the word "Think," imprinted in large type over the other text. We feel sure that this has been the means of preventing at least a small percentage of false alarms.

One theory that may be advanced of the persistence of false alarms in spite of all we can do to reduce them is that the sense of civil and social responsibility is low among a certain portion of present day young people. Admitting that the desirable attributes of citizenship may be as high, or higher in another group, still it is probable that in the former, such responsibility is actually lower. No other reasonable explanation occurs to me to account for the persistence of the dangerous and inexcusable practice of transmitting false alarms of fire.

A certain percentage of such alarms is attributable to the activities of men with whom the department has had trouble. In this city it is known that former members, removed from the service for cause, have vented their spleen against the department in this manner.

Michael T. Keena, Chief, Hartford, Conn.: We have been able to reduce the number of false alarms in recent years. We put arresto-alarms on boxes from which the most false alarms were sent. This has reduced the number of these alarms a great deal.

Loaning Tarpaulins

Does your department loan tarpaulins (salvage covers) for use by citizens, other than for checking damage by fire? Do you charge for this service? If so, how much?

Alex Houghland, Chief, Evansville, Ind.: Salvage covers are necessary appliances of all Fire Departments and are provided to reduce fire losses. Their absence would materially increase losses at many fires, therefore this department does not lend or spread salvage covers for any occasion other than fire.

We have a close working arrangement with adjusters in our city. In all instances of roof coverage, when our covers are used they replace them with rented tarpaulins immediately, the longest instance being about eight hours.

Thomas D. Blake, Fire Marshal, Rockford, Ill.: We charge fifty cents a day for a tarpaulin when it is exposed. We rent covers sometimes at that rate. This money keeps us in covers.

William J. Lutz, Chief Engineer, Wilmington, Del.: This department does not loan tarpaulins for use by citizens at any time. Many requests are received for tarpaulins, but these are referred to awning contractors, who have tarpaulins and awning canvas for hire.

I do not consider it good practice for Fire Departments to loan or have tarpaulins for hire, as the occasion may arise where it may be necessary to cover up and protect merchandise, furniture, etc., at a fire and we would, to a degree, be handicapped by the lack of tarpaulins.

The only time tarpaulins are used in or on a building other than for checking damage by fire is in the case of extreme emergency, and no charge is made for this service.

H. E. Williams, Chief, Richmond, Ind.: We do not lend or rent salvage covers. In

some cases, it is necessary for us to leave covers where we have had fires until the water has stopped dripping. In such cases we call for the covers in a few hours.

R. E. Whalen, Fire Marshal, Elgin, Ill.: We loan covers occasionally for other than fire purposes, but the department spreads the covers to see that no damage is done to them.

We do not make a charge, but if any remuneration is made the money is placed in the pension fund.

E. J. Ryan, Chief, Aurora, Ill.: Salvage covers are left at the fire as long as there is immediate danger from the elements or where there is still danger of water damage after the department has cleaned up. No charge is made for this service, but tarpaulins are picked up as soon as possible.

W. J. Mohr, Chief, Santa Monica, Cal.: This department will loan out its covers in an emergency—but it must be an emergency, and for a definite time. No charge is made.

W. R. Williams, Chief Engineer, Fresno, Cal.: This department does not loan salvage covers, nor do we rent them.

The exceptions, of course, are the cases where stormy weather follows fire, and roofs must be covered to protect contents. The protection is provided for a reasonable time, until adjustment is made, or a permanent roof provided. In the case of windstorm, tornado, or any so-called "Act of God," this department is always at the service of the community to offer aid and assistance.

I am definitely opposed to loaning or renting any department equipment, as it may be quite essential that this particular equipment be used by the department in order to avoid what may be a high potential property loss.

M. J. Dunphy, Chief, Sacramento, Cal.: Occasionally we loan covers to citizens, when their roof leaks are caused by a storm, or if the roof is being replaced, and it starts to rain. We make no charge for this service.

G. Dean, Chief, Orlando, Fla.: Should an emergency arise in my city where salvage covers could be used to avert great loss, I would certainly consider it this department's duty not only to loan the covers, but to provide the manpower for the proper use of the covers. There would be no charge for this service.

George Knol, Chief, Cicero, Ill.: We loan tarpaulins other than for checking damage by fire. In cases where we feel that the owner can readily take care of the situation without the tarpaulins, we charge for this service. Where glass has been broken, or furniture put out in bad weather, we do not charge for the service. The usual charge is twenty-five cents a day.

Bernard Meany, Chief, Ottumwa, Ia.: We do not loan tarpaulins for anything other than fire damage.

James Marsh, Chief, Granite City, Ill.: Covers are loaned to churches and for covering roofs in case of damage. A charge is made.

R. J. White, Chief, Tampa, Fla.: We only loan tarpaulins where we have a fire, and then only for a short period of time. No charge is made.

Insulation of Fire Alarm Cables

What advantages and disadvantages are there in the use of triple covered fire alarm cables with lead sheath over the the more expensive rubber covered cables with lead sheath?

H. A. Friede, Superintendent of Fire Alarms, Washington, D. C.: The advantages, if any, and disadvantages of conductors with standard lead sheath; (a) with paper insulation, (b) with standard rubber insulation and (c) with the newer thin wall rubber insulation, in terms of initial cost, physical dimensions, which of course have a great bearing on installation costs, installation and maintenance.

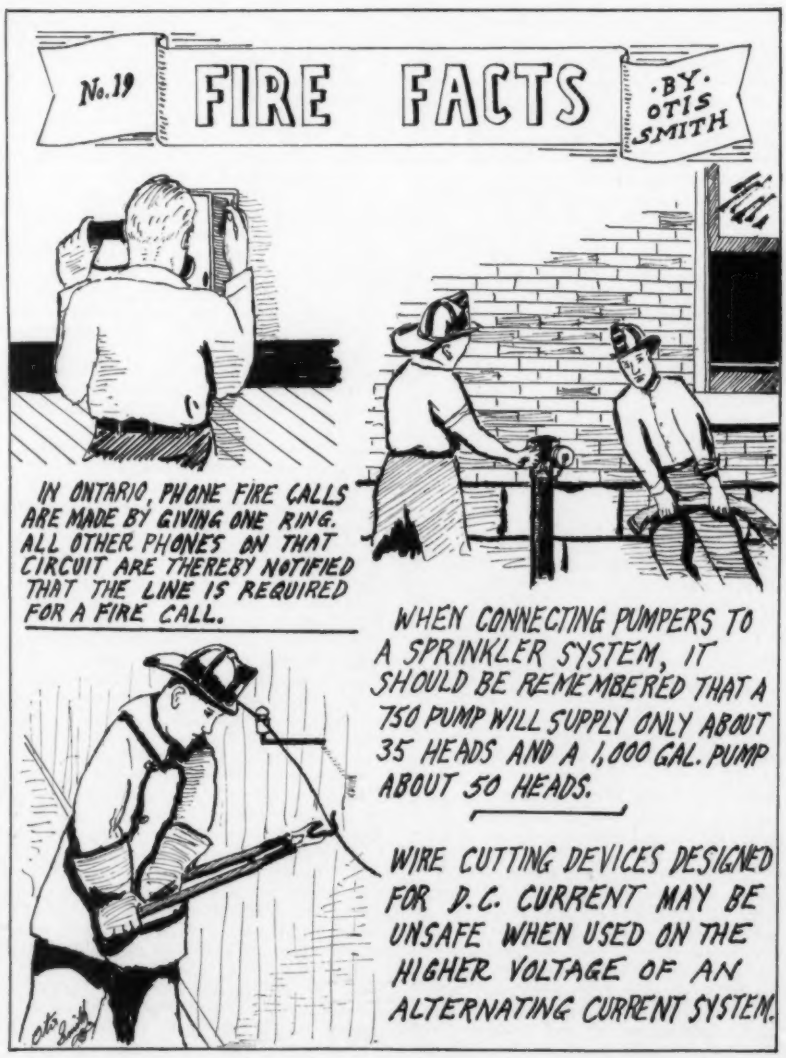
I use all three types in my work in the District of Columbia and the prices given in the following comparison are all based upon recent purchases so that they reflect current market quotations:

	Cost per Foot	Percentage Cost*	Outside Diameter	Net Wt. Per M Ft.
Paper Insulated	$.1364	33	.746"	1,100 lb.
Standard Rubber Insulated	.410	100	1.33"	2,860 lb.
Thin Wall Rubber Insulated	.217	53	.78"	840 lb.

*Percentage cost is based upon standard rubber insulated cable at 100 per cent.

paper insulated fire alarm cable over rubber insulated fire alarm cable may be seen by a study of the properties of each. For comparison, let us consider a combination fire alarm cable consisting of five pairs of Number 14 AWG conductors and five pairs of Number 19 AWG

The above tabulation shows definitely that paper insulated cable is less expensive to purchase than a standard rubber insulated cable; that the net weight of the cable and the outside diameter of the paper cable are less than the standard rubber insulated and, therefore, it is safe


No. 19
FIRE FACTS
BY OTIS SMITH
IN ONTARIO, PHONE FIRE CALLS ARE MADE BY GIVING ONE RING. ALL OTHER PHONES ON THAT CIRCUIT ARE THEREBY NOTIFIED THAT THE LINE IS REQUIRED FOR A FIRE CALL.
WHEN CONNECTING PUMPERS TO A SPRINKLER SYSTEM, IT SHOULD BE REMEMBERED THAT A 750 PUMP WILL SUPPLY ONLY ABOUT 35 HEADS AND A 1,000 GAL. PUMP ABOUT 50 HEADS.
WIRE CUTTING DEVICES DESIGNED FOR D.C. CURRENT MAY BE UNSAFE WHEN USED ON THE HIGHER VOLTAGE OF AN ALTERNATING CURRENT SYSTEM.

to assume that the cost of transportation to the municipality will be less in the case of the paper cable and, likewise, the cost of pulling the paper cable into ducts also will be less, and that paper cable can be pulled over long runs more conveniently. However, first cost is not the only criterion in installing fire alarm cable. We must consider that continuity of service in the fire alarm system is very important. In the case of paper cable laid under ground, the slightest moisture penetrating through the lead sheath at a joint will put the whole cable out of commission, and all equipment beyond the failure out of service. This is not true with rubber insulated cables.

A municipality that uses paper insulated cable must exercise constant vigilance over its cable; must have a trouble man on duty at the central fire alarm office 24 hours a day, and this trouble man must be supported by a cable splicing crew on call for immediate service at all times to guard against failure of the paper cable. This is the case in my office, and I have a feeling that the majority of fire alarm bureaus do not have sufficient personnel to provide for such a service. This fact alone should be sufficient cause for the fire alarm superintendent to view with skepticism the idea of paper insulated circuits on his fire alarm system.

Hand in hand with constant supervision of the paper cables goes the absolute need for perfect cable splices. Cable joints on paper insulated cable after wiping must be tested with oil pumped nitrogen which is absolutely free from moisture and the sleeves themselves must be tested to assure that the joint is securely wiped.

It seems to me that while paper cables possess characteristics of initial cost, size and weight that should be classified as advantages over standard rubber cables, upon complete consideration, these so-called advantages lose all their force and are far outweighed by the disadvantages of paper over standard rubber insulated cables.

Up to this point in answering your question I have confined my comments to the comparison of paper insulated vs. standard rubber insulated cables as defined in the IMSA specification No. 1-1937. Wire and cable manufacturers, however, in recent years have developed a thin walled rubber insulation for fire alarm cables, as, for example, those covered by IMSA specification No. 16-1937, which combine all of the advantages of a rubber insulated cable with all of the advantages of a paper insulated cable, except perhaps that of initial cost. But every Fire Alarm Superintendent knows that he cannot evaluate the overall cost of circuits to a municipality upon original cost of cable alone. To illustrate, I feel that I may speak from experience, since in the District of Columbia we have in service all the types of cable mentioned. We know when we have a failure in our paper cables our Wire Chief must take a location quickly and at the same time, day or night, get the cable crews moving to repair the damage. The cause of failure in the majority of cases is a break in the sheath in a manhole which necessitates the replacement of two sections of cable, one on each side of the break. Contrast this procedure with a failure of rubber insulated cable. In this instance the cable crews can make the repair simply by opening the cable, removing the moisture present and replacing the lead sleeve, leaving the cable in service. It becomes very plain then that when all points are taken into consideration paper cable, the lowest in initial cost, is much more expensive to maintain.

Fire alarm bureaus, not being blessed with surplus funds or personnel, will find themselves without fire alarm service and the Fire Department placed out of service, if they use paper cables, since when a wet short occurs it may short out several boxes on a circuit, and unless the system happens to be of the modern three-fold type the superintendent would not be aware of this hazard until he made a test to show an increase in current on his circuits or by testing the particular boxes affected by such a short circuit. Therefore, the utmost care must be exercised with paper cables and for these reasons, well known to the National Board, paper cable is not approved for fire alarm service. In addition, the maintenance of a trouble man and splicing crew for 24-hour service soon wipes out initial cost advantage.

Paper cable is used in the District of Columbia because the District maintains its own municipal telephone system as well as police telephone system, both of which are served by paper cable. These services, as we all know, are not as important as fire alarm systems, because when a telephone is out of service no one's life or property is in jeopardy.

The thin walled rubber insulated fire alarm cable has approximately the same outside diameter and therefore can be pulled through ducts as easily as the paper insulated, and no doubt easier since the weight of the rubber insulated is approximately 75% of the paper insulated. This fact, however, is of relatively small consideration in comparison with the moisture resisting properties of the thin wall insulation as against paper which will provide the most important factor, continuity of service. When thin wall cable of the type described in IMSA specification No. 16-1937 is installed, the fire alarm superintendent need not be particularly concerned about moisture entering the cable, because the dielectric used in thin wall rubber insulated cable has the highest moisture resisting properties of any flexible dielectric. In fact, moisture could enter such a cable without causing failure, as with paper cable.

Splices on rubber insulated cable are much easier to make and require far less caution than those of paper insulated cable. This becomes more applicable with the thin wall rubber insulated cable because the manufacturers have developed particular splicing material to go with these cables. The whole subject seems so useful at this time that the International Municipal Signal Association, at its convention at Baltimore September 12 to September 15, is planning to conduct an exhibit demonstrating the methods of making splices on the three types of underground cables. It is felt that this demonstration will be of great value to municipal signal engineers, and it is hoped that persons interested in this matter will view these demonstrations.

To summarize my reply to your question, paper insulated cables in comparison with standard rubber cables can be justified only on a first cost basis, provided always that 24-hour trouble service is taken into consideration. Compared to the standard rubber insulated or the thin walled rubber insulated cables, paper cables, in the opinion of many fire alarm engineers have not proved successful in fire alarm systems, and paper cables would constitute a very dangerous practice in small municipalities without adequate personnel.

George L. Fickett, Superintendent, Fire Alarm Division, Boston, Mass.: It is true that paper cables cost less than rubber and, with the same number of conductors, are smaller in diameter which is an advantage where duct space is limited. But they cost more to install. Paper insulated cables necessarily require a lead sheath and service depends entirely on the sheath remaining intact. A damaged sheath requires immediate attention if serious troubles are to be avoided. On the other hand, if the conductors have approved rubber insulation, troubles due to a broken sheath develop slowly and furthermore, rubber-insulated cables need not necessarily have lead sheaths.

If paper cables are used in a fire alarm system, cable splicers skilled in that class of work must be employed and must always be available for emergencies. The only reason why paper cables are used in firm alarm systems is the low initial cost and the smaller diameter, and the latter feature can be obtained by using thin-walled rubber. Paper insulation has low electro-static capacity which is quite essential in a telephone system but not necessary in a fire alarm system. Paper cables require pot-heads which are not necessary where rubber is used.

The cable system is a very important part of a fire alarm system. Low first costs should not be considered as an important factor in deciding upon anything so important as a dependable fire alarm system. The safety of a community often times depends upon the reliability of the fire alarm system. Failures are minimized by the use of rubber insulation.

Everett Zeh, Superintendent, Fire and Police Telegraph, Schenectady, N. Y.:
1. Cables must necessarily be protected from moisture and a break in the lead sheath of a paper covered type would cause this dampness or moisture to creep along the conductors and a possible short from a conductor to the lead sheath would cause serious grounds.
2. Of course if the paper could be kept dry there would be advantages of a higher dielectric characteristic.
3. Paper covered cables do not have as much mechanical strength and for the purposes of pulling this is a feature that should be considered. More chance of damaging the cable in pulling.

The advantage is:
1. The price of paper covered cables is of course less than the lead covered and even cheaper than Latox and can be made much smaller. Some think this an advantage because more than one cable can be pulled into one duct, but I am of the opinion that multiple cables should not be pulled into one duct.

Chief Herring Re-elected

Chief Albert Herring, Murphysboro, Ill., was re-elected President of the Egyptian Fire Fighters Association at a convention held at East St. Louis. Fred Haderlien, Carlyle, and August Schneider, Du Quoin, Vice-Presidents; P. C. Ferguson, Secretary, and Peter Lind, Treasurer.

What Equipment on the New Truck

Review of Specifications for Pumpers Recently Purchased by 41 Cities Shows Equipment Commonly Specified When Buying New Machines

IN order to determine about what appliances are usually specified on new pumpers by the purchaser, specifications of 41 recently delivered jobs have been reviewed, and the results are tabulated below.

In making this compilation those appliances commonly a part of the truck, such as lighting equipment, pump, booster tank, hose, etc., were not included. Furthermore, as many machines are furnished practically stripped, and the appliances added afterwards, the tabulation does not show the total equipment ultimately carried on the truck.

In reviewing the figures, it should be remembered that they represent only the appliances specified on newly purchased machines and for the 41 pumpers reviewed.

Appliances Specified on New Pumpers	Number of Trucks on Which Specified
Extension Ladders	
18 Foot	1
24 "	17
26 "	1
28 "	5
30 "	2
32 "	1
35 "	2
40 "	1
Roof Ladders	
10 Foot	4
12 "	7
14 "	17
16 "	5
Aluminum Extension Ladders	
20 Foot	1
24 "	1
28 "	2
30 "	1
26 "	1
Aluminum Roof Ladders	
12 Foot	2
Pike Poles	33
Comb. pike pole & metal ceiling remover	1
Comb. pike pole & plaster hook	1
Crow-bars	32
Fire Axes	35
Tarpaulins	3
First Aid Kit	5
Hand pumps	3
Nozzles	
Ball & Socket nozzle	1
Distrib. nozzle	1
Deck guns	1
Fog nozzles	3
Shut-off nozzles	18
Chemical shut-off	4
Boosterline shut-off	5
Nozzle tips	15
Door openers	5
Plaster hooks	4
Life net	1
Hose & ladder straps	3
Canvas hose cover	6
Hand Extinguishers	6
Carbon dioxide Ext.	3
Carbontetrachloride Ext.	10
Foam Extinguishers	34
Soda & Acid Ext.	12
Dry Powder Ext.	1
Foam Generator	3
Shovel	1
Acetylene Torch	1
Tin Roof Cutter	1
Wire Cutter	1
Oxygen Mask	4
Siphon	1
Fire Department Kerosene Lanterns	7
Electric Lanterns (hand)	29
Searchlights	18
Revolving searchlight	1
Revolving or Flashing signal light	8
Flood lights	1
Hose jacket	4
Play pipes	7
Play pipe holders	1
Hip pack	1
Claw tool	1
Water pump buckets	2
Hard suction hose	15
Soft suction hose	15
Suction hose	10
Suction hose strainers	19
Siamese connections	9
Reducer siamese connection	1
Y Connections	3
Double male connections	21
Double Female connections	21
Double Female connection for large hydrant	1
Reducer hydrant connector.	3
Reducing caps for discharge outlets	1
Hydrant adapters	3
Gate Valves	3
Double gate valves	2
Electric Siren or Exhaust whistle	(Practically All)
Locomotive bell	18
Hose clamp	4
Jacks, hydraulic, screw and Pneumatic	8
Wrenches, Spanner, Socket, and Hydrant	15
Tool kits	18
Sledges	2
Turret pipe	3
Deluge set	1
Hydrant connections	2
Hydrant connections (swivel)	2
Hydrant connection (suction)	1
Reducers	2
Reducers with gate valve	1
Double male reducers	2
Double female reducers	2
Reducer for suction hose	1
Steamer plug (female swivel connection)	1
Hydrant gate	1
Double hydrant gate	1
Gate wye	1

Fire Companies in Service at World's Fair

On September 5, three New York Fire Department companies went into service at the World's Fair. Station and apparatus were provided by the Fair. The New York companies will man the apparatus for the period of the Fair. Thereafter the apparatus and station will be turned over to the New York Fire Department. Former Assistant Chief Thos. J. Dougherty of the New York Fire Department is Consulting Engineer on Fire Protection for the Fair and, along with his other duties, will supervise the operation of the fire-fighting organization, though not in direct command of it.

Introducing Chief Tyson, Ex-President of I. A. F. C.

Here is M. L. Tyson, who has spent many years in the fire service, and who for the past fifteen years has been Chief of the Oldsmobile Police Department at Lansing, Mich. His proudest possession is a diamond-studded badge, presented to him by the people of Louisville, Ky., when he resigned as Chief of the Fire Department. The badge, made by Tiffany, contains thirteen diamonds, the largest of 2½ carats. He served as Fire Chief at Louisville for seven years and Assistant Chief for five years. At the Columbus, Ohio, convention of the I. A. F. C. in 1908, he was elected President of that organization.

ADVANTAGES AND METHODS OF DWELLING HOUSE INSPECTION

Residences, as Well as Public and Business Buildings Should Be Inspected—Cooperation of People Should Be Sought—Men Volunteer for Service

By Daniel B. Tierney

Chief of Fire Department, Arlington, Massachusetts, and President, International Association of Fire Chiefs.

IN no line of endeavor are prevention efforts receiving greater consideration than in the profession of fire fighting, where fire extinction and fire prevention are so closely allied that the efficiency of a department can be measured by the results secured through fire prevention.

Every Fire Chief knows that the number of careless fires in property under constant and systematic inspection are reduced and the losses minimized. In 850 mercantile premises inspected twice each month, there were five fires. With such a record it is only fair to assume that "putting them out before they start" is a real and successful achievement.

Inspection Should Not Be Confined to Business Buildings

It is generally admitted that public buildings, factories, mercantile establishments and other business buildings should be inspected as often as the Chief of the Fire Department deems necessary and in proportion to the number of men available for the work. To confine fire prevention inspection to public and business properties alone, in my opinion, is not sufficient. Residential inspection annually is most important and necessary. Statistics show that over 60 per cent of the number of fires take place in dwellings and two-thirds of the 10,000 persons who were burned to death last year were in homes.

Only Refused Admission to Three Residences

When a Chief considers residential inspections, he is confronted with the question of the right to do so, for "a man's house is his castle." Many states and provinces have Fire Marshals and under such an act, it is generally provided that anyone designated by the Fire Marshal may enter at any reasonable hour any building or other premises for the purpose of inspection, or to enforce any law or ordinance or any rule or order of the Fire Marshal, without being deemed guilty of trespass, provided that there is reason to suspect the existence of circumstances dangerous to the public safety as a fire menace. In our inspection we found no need of invoking the law. Out of 7,161 homes we were refused admission to only three.

Means to Secure Cooperation

How can the people be approached and their cooperation obtained? One means is by a notice in the local paper, or better still, an editorial on the proposed inspection. The facts should be emphasized that cellar fires in dwellings, especially when they occur at night, are most dangerous and often cause loss of life. It should also be pointed out that practically every fire in the home is due to carelessness in allowing breeding places for fire to exist, such as, rubbish, papers, cleaning rags, ashes in wooden containers or against wooden partitions, defective pipes and flues, sub-standard electric wiring, or the use of improper fuses. All unsafe conditions liable to cause fire or its spread are brought to the attention of the owner, who is requested to accompany the inspectors on their visit. When people realize that this is solely for *their* benefit and protection they will not only cooperate but will welcome the inspection.

Men Volunteer for Inspection Service

How can the inspection be accomplished with a small force of men? This question bothered me before our first dwelling house inspection in 1914. I thoroughly believe in it primarily as a medium of acquainting people with potential hazards existing in cellars, that might cause loss of life. In many places hazards were plenty, but the owners felt that they were immune.

I realized that two men were necessary for each inspection, to obviate the possibility of any unpleasant occurrence that might spoil the inspection and embarrass the department. The men were consulted regarding the matter and readily agreed to volunteer their services on "off-time" periods for the week. The importance of this sacrifice on the part of the firemen was stressed in all notices announcing the inspection.

The good effect of these inspections in the Fire Department itself is apparent in many ways. It will inspire public confidence in the firemen and establish a sound appreciation of their value to the community. It will awaken interest in the welfare of the department and requests for increases in salary and better living conditions will not go unheeded and the Chief's requests for additional men, apparatus, adequate building and fire prevention laws, and other improvements in public safety will be supported because of the citizens' interest in the safety of the community.

	Fire Loss in Dwellings 1930		Fire Loss in Dwellings 1937	No. Dwelling Fires 1930		No. Dwelling Fires 1937
Providence, R. I.	$155,988		$62,921	549		201
Fort Worth, Texas	755,728	(1931)	137,002	513	(1931)	247
Dallas, Texas	642,151		239,329	564	(1932)	319
Brockton, Mass.	40,642		23,103	142		95
Omaha, Neb.	153,961		87,376	931		675
St. Paul, Minn.	316,145		186,963	932		856
Worcester, Mass.	410,000		134,083	827		632
Springfield, Mass.	173,694		61,473			
Salem, Mass.	39,642		27,371			
Memphis, Tenn.	607,704		219,975	1,103		498
Middletown, Ohio	24,965		12,288	164		162
Chelsea, Mass.	118,406		87,444	116		68
Everett, Mass.	84,002		36,745	100		61

Results of Dwelling House Inspections

The accompanying table shows some of the results in cities where dwelling house inspections are made annually.

Chief Mader, Bucyrus, Honored

Chief William F. Mader, Bucyrus, Ohio, was honored by friends and officials who gathered to mark his fifty years in the fire service. He was the honored guest at a testimonial dinner.

He was the first Chief the city ever had. He was appointed in 1888. When appointed, he had had four years' fire-fighting experience.

Chief Mader was presented with a wrist watch, flowers and other gifts.

Willert Heads Michigan Chiefs

Chief Edward C. Willert, Mt. Clemens, Mich., was elected President of the Michigan Association of Fire Chiefs at the 13th annual convention held at Muskegon on August 9 to 11.

The other officers are Frank W. Kuhn, Pontiac, First Vice-President; Harry C. Crumb, Bay City, Second Vice President; George F. Dansbury, Grosse Pointe Farms, re-elected Secretary; George Boughner, Grand Rapids, re-elected Treasurer. Next year the convention will be held at Bay City.

Edward Rumsey, Chief Mechanic, Detroit Fire Department, read a paper on replacement of wood ladders with metal ones, and the use of enclosed cabs for fire apparatus.

J. W. Parry, Ann Arbor, Assistant Supervisor of Public Service Training of the State Board of Vocational Education, announced plans to start training schools for volunteer firemen.

Removal of Hazards Discussed by New England Chiefs

Conclusion of Report of the Sixteenth Annual Convention at Burlington, Vt., With List of Exhibits and of Those Present

By HARRY BELKNAP

DR. ROBERT H. ALDRICH, visiting and assistant surgeon of the Carney Hospital, Boston City Hospital, and Harvard Medical School, gave an interesting and instructive talk on "The Treatment of Burns With Aniline Dyes." He said that 26 per cent of all accidental deaths of children under five years of age are due to burns. Six per cent of all the people who meet accidental death, die from burns.

The doctor traced the treatment of burns from 600 B. C., when the Chinese

Jimmie Keegan, Master Conductor and the Kavanaughs

Left to right: J. T. Keegan, Chief of Salvage Corps., Newark, N. J.; Chief Milton Galvin, Naugatuck, Conn.; Chief Thos. J. Cavanaugh, Waterbury, Conn., and Harry G. Cavanaugh, A. D. T. Company.

used tea which contains tannic acid. He said that the old theory that if one-third of the human body suffers a third degree burn a fatality will result, is no longer true, due to modern methods of treatment.

He told of how fatalities from burns had been cut from 42 per cent to 32 per cent by a treatment using tannic acid in the Johns-Hopkins Hospital in Baltimore, Md.

In 1912 gentian violet was used with good results. The mortality was reduced from 32 per cent to 13 per cent in cases of severe burns. Now a combination of three aniline dyes has dropped the mortality rate to eight per cent of the cases treated in this manner.

The doctor said three fundamental rules for treatment of shock from burns were *heat*, *rest*, and *fluids*. He told of the method of spraying burned skin with aniline dyes and warned against the use of oils and lotions.

Cooperative Removal of Hazards

Chief John C. McNally, of Somerville, Mass., read a paper on "The Removal of Fire Hazards by Co-Operative Methods."

He told of the hazardous conditions that existed in Somerville, due to dilapidated and abandoned buildings, including old factories and windowless vacant dwellings. A campaign was started to get rid of these derelict structures and to put unemployed labor to work at the process of demolition. It was decided to use persuasion on the owners, rather than to compel the removal of the buildings by due process of law. It was found in most cases that, when the advantages of lower taxes and decreased insurance rates were pointed out, permission could be obtained from the owners for the tearing down of the buildings.

Total of 216 Buildings Removed

A survey was made and the aid of the New England Insurance Exchange was obtained in the campaign. Somerville is a city of 103,000 population and contains 15,000 dwellings, mostly of frame construction. A total of 216 buildings were removed and the debris was used to build a drill tower and combined field house and locker room for a play-ground. Fire-wood was also furnished the needy, and cellars of removed houses were filled in with sand. A total of 700 reductions in insurance rates were effected as a result of the campaign for the removal of these "conflagration breeders."

Standardization of Suction Hose Threads

The last paper on the Tuesday afternoon program was by P. C. Charnock, Engineer of the New England Insurance Exchange, on "Standardization of Suction Hose Threads." The speaker told of the good results obtained from the adoption of the national standard hose threads for couplings and told of the need for a standardization of suction thread sizes. The recommendation for adoption of a 4½-inch thread for suctions was endorsed by the association.

Exhibits of Forest Service Trucks

The Forest Fire Wardens' session scheduled for Wednesday afternoon was cancelled because of the inability of Perry Merrill, Vermont State Forester, to be present.

However, Otto G. Koenig, Supervisor of National Forests in Vermont, exhibited one of the U. S. Forest Service Trucks from Rochester, N. H., used in the Green Mountain National Forest, and Melvin E. Bradder, District State Forester, showed his truck which carries a type V Pacific portable pump and 2,000 feet of inch-and-a-half hose.

The U. S. Forest Service Truck carried complete forest fire tools, emergency rations, Indian fire pumps, a Pacific portable gasoline pump, mess kit for 25 men, canvas back pack pumps, hose, portable telephones, and two miles of telephone wire. Mr. Koenig was accompanied by Edward Tausek, junior forester; Ronald E. Griffith, chief mechanic, and Frank Whitaker, superintendent of the Rochester Civilian Conservation Corps Camp.

Steamboat Trip on Lake

On Wednesday evening the steamboat trip on the lake was greatly enjoyed. The start was made at 8 p. m., just in time for the Chiefs and their guests to enjoy a beautiful sunset. Music for dancing was furnished by two orchestras and there was also impromptu singing of popular songs on the upper deck. A grand time was had by all.

The final meeting of the convention

Three Well-Known Figures at the Convention

Left to right: Chief Samuel J. Pope, Boston; John F. Scully, Pres., American Fire Equipment Co., Boston, and Wm. Arthur Reilly, Fire Commr., Boston.

was held on Thursday morning, when reports were received and officers elected for the ensuing year.

The Exhibits

Modern streamlined motor fire engines with enclosed bodies featured the exhibit of apparatus at the convention. The ground floor of the big memorial auditorium was well filled with motor apparatus and accessories, all available space having been engaged. The convention meetings, with the exception of the memorial service, took place in the hall on the floor above the exhibition room, so that a good attendance was assured.

The center of interest and attraction was the big new sedan type motor pumper designed by Chief Selden R. Allen for the Brookline, Mass., Fire Department, and built by the American-LaFrance and Foamite Industries, Inc., of Elmira, N. Y. This machine has a pumping capacity of 1,500 gallons of water per minute and represents the last word in ultra modern design and equipment. The entire interior is lined with shining stainless steel. The pump is of the centraflow type. Ample space is provided in lockers and built in cubicles for all kinds of fire fighting implements and there are compartments for carrying the usual amount of two and a half inch hose. Complete protection is afforded the firemen from rain, snow, and cold while going to and from fires.

Besides the new Brookline engine the American-LaFrance firm exhibited a new stream lined motor pumper of the triple combination type and 1,000 gallon per minute capacity for the Sussex, N. J., Fire Department.

The accessories division of the American-LaFrance company showed a line of equipment, including Barker-Eastman nozzles, LaFrance inhalators, shut-off gates, gas masks, first aid kits, and various tools and appliances.

The representatives at the convention were: Joe Webber, Boston; Lester J. Creaser, Boston District Manager; Arthur G. Sullivan, Apparatus Sales Manager; Hugh Walker, Chief Factory Engineer, Elmira, N. Y.; Harris Hunt, Connecticut; Harry J. Monahan, New Hampshire; Ray Sluiter, Rhode Island; James R. Shea, Western Massachusetts; George Loomis, Vermont; and S. R. Jones, of the Maine district.

The Seagrave Corporation, Columbus, O., exhibited a seven-man canopy cab triple combination motor pumping engine of 500 gallon capacity built for Housatonic Engine Company No. 1, of Great Barrington, Mass.

The Seagrave representatives were: Lester Stevenson, General Sales Manager; Frank Taft, New England Manager; Howard Ensign, Hartford, Conn.; Philip Putnam, Boston, Mass.; C. E. Jeffries, Boston; Frederick Alger, Boston; and Charles Blomquist, Boston.

A handsome motor pumping engine, resplendent in glistening white paint, was displayed by the Ahrens-Fox Fire Engine Company.

The Ahrens-Fox men were headed by: President Charles A. Fox and included Gordon Litchfield, District Manager; Earl Moulton, and Elwood Yoho.

The Maxim Motor Company, Middleboro, Mass., showed for the first time a brand new type enclosed stream lined motor pumper for a full engine crew.

An unusually complete line of fire department supplies was exhibited by the new accessories division of the Maxim firm.

President Ernest L. Maxim, Treasurer Joseph Whitcomb, Superintendent of Service Earl Shaw, Leighton Maxim, Russell G. Brown, and Robert Clark were on hand to demonstrate and explain the exhibits.

The Mack Motor Truck Company exhibited a quadruple duty city service ladder truck built for Edgartown, Mass.

Charles E. Stewart and Mr. Harrington were the Mack representatives on duty.

The Farrar Company, Woodville, Mass. displayed a new motor fire truck built for Norwich, Vt. Clarence Farrar and Andrew Williams were the representatives.

The Rockwood Sprinkler Company, Worcester, Mass., showed the well known Rockwood automatic sprinklers and dual guard fire detecting system; also a new quick acting automatic fire door release and a new quick acting automatic fire control system for air conditioning equipment. The firm was represented by President William J. Carroll, James Ryan, Norman Sherwood, and Bert Linval.

The Gamewell Company, Newton, Mass., was well represented at the convention by a delegation headed by President Vincent J. Stanley and E. J. McCarthy, General Sales Manager. The other Gamewell men were Leonard Dawson, Russell A. Glenn, Everett Angier, Earl Smiddy, and Charles Smith.

The Gamewell exhibit included the latest type of Gamewell Peerless three-fold fire alarm box and a display showing the changes in design of fire alarm

A Few Views of the Large and Attractive Exhibits at the Convention of the N. E. A. F. C.

boxes that have taken place from 1851 to 1938.

The Justin A. McCarthy Company, Boston, Mass., showed Manhattan fire hose, the Taylor Minute Man hose bridge, Carpenter and Bright Bumper lights, and a complete line of fire department supplies. Justin McCarthy, Arthur Lindh, and W. B. Boucher were in charge.

Harry J. Lovell showed B. F. Goodrich fire hose, with samples of the crude rubber used in the manufacture of hose linings. P and Q door openers, siphons, chemical hose, and suction hose were also displayed. Mr. Lovell was assisted by W. E. Sholander and Charles "Sandy" Chapman.

The Gorham Fire Equipment Company, Boston, Mass., represented by Joseph T. Gorham, showed sirens, CO_2 extinguishers, Quaker City Rubber Company fire hose, door openers, Buckeye nozzles, pump cans, axes, Clayton sirens, rubber boots, Acme gas masks, and various tools and appliances for fire department use.

The usual handsome display of badges and Fire Department insignia was shown by the C. G. Braxmar Company, New York City. George E. Bradbrook and John O. Veit were in charge.

The Mine Safety Appliances Company, represented by Captain Alfred Kinsella and Jules Steffen, showed the M.S.A. hose mask, the oxygen mask, the Burrell all service mask, H and H inhalators, and an explosimeter used for detecting the presence of inflamable and explosive gases in confined spaces.

The Arthur H. Blanchard Company, Cambridge, Mass., the New England fire hose division of the Boston Woven Hose and Rubber Company, displayed fire hose, suction hose, nozzles, axes, the Blanchard flexicot, Pacific portable forest fire pumps, and general Fire Department supplies and tools. The representatives were Arthur Blanchard, Andrew Deibel, Charles Gorman, and Frank Grant.

Lubrx motor solvent was shown by Clifton E. Bain, of Melrose, Mass., representing Lubrix Products, Inc., of Boston.

The well known Atlas life nets, Atlas life belts, and the new Atlas rope nets fitted with shock absorbers for use in fire department drills and training school yards were shown by William Moeller, of New York City.

Indian fire pumps for use in fighting forest and brush fires were displayed by the D. B. Smith Company, Utica, N. Y. The firm was represented by W. T. Jones and E. Evans.

The American Fire Equipment Company, Boston, Mass., displayed a fine line of Fire Department accessories, including Republic hose, Wheat lights, C O Two extinguishers, Eastman Marker play pipes, Eastman deck pipes and deluge guns, the Elkhart mystery nozzle, Akron mist nozzle, tools, gates, axes, sirens, first aid kits, extinguishers, pump cans, etc., John F. Scully, Hubert W. Tracy, C. Leo Gravelle, Joseph A. McLoughlin, and S. B. Dyer were in charge. Among the new items shown by this firm was the U. S. portable electric plant for emergency use. Federal sirens, Hume door openers, and Carpenter lights were also shown.

The United Pyro Chemical Corporation, Lynn, Mass., general fire-proofers, was represented by Mr. and Mrs. William H. Brown and showed the famous "Kant Blaze" blankets for Fire Department and hospital use.

The Homelite Company showed portable generators and flood lights. William E. Webb, Boston, was in charge of the display.

FIRE ENGINEERING was represented by Fred Shepperd, Editorial Director; I. Herbert Case, Vice-President and General Manager; and Harry Belknap, Boston, New England Correspondent.

The United States Tire and Rubber Company showed the new Royal Master and Ray Master skid control tires for trucks and pleasure cars. J. J. Buckley, Boston, was in charge.

Rubber coats and turn-outs were shown by the Mid-Western Manufacturing Company, Mackinaw, Ill. I. A. Swift, New England Representative, was in charge.

The Fabric Fire Hose Company, Sandy Hook, Conn., was represented by Robert Many Wood, Leon R. Meaney, Joseph Ringers, Sales Manager; P. A. Wood, and O. B. Maxwell.

Other exhibitors were the Boston Coupling Company, represented by Clifford Barker; the Quaker City Rubber Company, the Bi-Lateral Fire Hose Company, Harry Prescott & Son and the Eddy Valve Company, the Boston Janitors' Supply Company, and the American District Telegraph Company. E. G. Clewly represented the Bi-Lateral Fire Hose Company and Erlon S. Noyes represented the Quaker City Rubber Company.

Just outside the entrance to the hall the Budd Ambulance Company exhibited the flexible ambulance, built especially for use at the New York World's Fair—1939.

The Eureka Fire Hose Division of the U. S. Rubber Products Company did not have an exhibit this year, but the firm was represented at the convention by Joseph H. Green, President; John T. Dwyer, Percy R. Lewis, A. Lee Cowles, and William F. Abbott.

The total amount of floor space occupied by the exhibits was 5,750 feet, according to Alfred H. Koltonski, Chief, Rutland, Vt., Fire Department, and Chairman of the Exhibit Committee.

Among the organizations represented

at the convention were the Massachusetts State Firemen's Association, the Massachusetts Fire Prevention Association, the Fire Chiefs' Club of Massachusetts, the New Hampshire Fire Chiefs' Club, the Rhode Island Fire Chiefs' Club, the State Association, Fire Chiefs of Maine; the Box 52 Association, Inc., of Boston, Mass.; the Boston Sparks' Club, the Middlesex County, Mass., Forest Fire Wardens' Association; the Minute Man Foresters' Protective Association, the Norfolk and Bristol County, Mass., Forest Wardens' Association, the Essex County Wardens Association, and the Fire Chiefs' Emergency Plans of Fairfield, New Haven and Litchfield Counties, Connecticut.

Active Members Present at the Convention of the New England Association of Fire Chiefs

(Chiefs unless otherwise specified)

MAINE

Walter H. Brown, Bridgton
James H. Butler, Berwick
Louis B. Caron, Fire Comm., Lewiston
Wm. H. Clifford, Cape Elizabeth
Reuben E. Estes, Lewiston
S. A. Herman, S. D. Warren Co., Westbrook
Walter E. Hogan, Orono
C. W. Lovejoy, Ins. Comm. & State Fire Marshal, Augusta
Joseph P. McCosker, Bangor
Floyd E. McGlauflin, Presque Isle
Solomon A. Mercier, Rumford
Scott Morse, Bath
Allen F. Payson, Camden
J. W. Randlette, Richmond
Edward A. Reny, Westbrook
Oliver T. Sanborn, Portland
Chas. O. Spear, So. Portland

NEW HAMPSHIRE

Harry J. Connell, Hudson
Philip T. J. Cote, Gorham
Roger Crowley, Internat'l Shoe Co., Manchester
Charles H. French, Manchester
Wm. T. Happny, Concord
Jas. J. Holland, Member Fire Comm., Manchester
Willis F. Hough, Lebanon
G. H. Lamott, Hampton Beach
Percy R. Lewis, Ex-Comm., Concord
Ex-Chief H. J. Monahan, Berlin
E. B. Riley, Keene
Fred M. Sargent, Sunapee
Wm. S. Smith, Hooksett F. D., Manchester
E. H. Wheeler, Franklin

VERMONT

Earl C. Burt, Enosburg Falls
Waters Gillette, Springfield
Chas. A. Hannah, No. Springfield
John C. Heney, Barre
E. F. Humphrey, Newport
Chas. H. Hurlburt, Richford
Thos. D. Keery, St. Albans
F. J. Kinney, Orleans
Alfred H. Koltonski, Rutland
Sidney F. Lawson, Montpelier
F. C. Parmenter, Chester
M. S. Percey, No. Bennington
Carl D. Stockwell, Burlington
Willard C. Blair, Vergennes

MASSACHUSETTS

Henry F. Abel, Westwood
Selden R. Allen, Brookline
Ernest W. Bartlett, Billerica
Arthur Belmore, Webster
Louis W. Wills, Supt. Fire Alarms, Lexington
Wm. J. Blair, Nantucket
Leslie George Blood, Littleton
Robert G. Breck, Longmeadow
Edward P. Brennan, Jr., Natick
Geo. E. Byron, Engineer, Hudson
Harold J. Conron, No. Reading
Frank H. Copeland, Raynham
E. F. Dahill, New Bedford
Samuel Daoust, Marlboro
Theodore Deslauriers, Ware
Frank E. Dickinson, Brockton
C. L. Donnell, Walpole
Wm. J. Dooling, Malden
Joseph E. Duchesneau, Southbridge
Ex-Chief S. B. Dyer, Whitman
Hugh L. Eames, Reading
Chas. G. Earley, Turners Falls
F. Clifton Fears, Rockport
Herbert Ferris, Greenfield
Daniel W. Flynn, Gt. Barrington
John J. Gately, Hood Rubber Co., Watertown
Ernest H. Gunther, Jr., Dracut
Chas. Hiser, Adams
Patrick J. Hurley, Holyoke
Ex-Chief Robert H. Johnson, Holden
Chas. E. Lane, Orange
Wm. C. Mahoney, Peabody
John C. McNally, Somerville
Frank C. Newman, Melrose
John W. O'Hearn, Watertown
P. Hildreth Parker, N. E. Tel. Co., Belmont
El-Chief Walter Pierce, Arlington
Emery Perry, Harvard
Edward L. Pilling, Stockbridge
Samuel J. Pope, Boston
Lynwood F. Potter, Central Village
Frederick H. Pye, Stoughton
Thos. Qualey, Medford
Robert T. Quinlan, Needham
Clarence W. Randlette, Newton
Wm. Arthur Reilly, Fire Comm., Boston
H. C. Root, Springfield
Wm. Salsman, Saugus
Michael J. Shea, Fitchburg
Frederick H. Sibley, W. Springfield
T. H. Slaman, Wellesley
Geo. D. Stalker, Fire Comm., Holyoke
Francis A. Sullivan, Lawrence
James C. Sullivan, Lowell
Robert M. Tappen, Gardiner
Daniel B. Tierney, Arlington
Frank E. Tracey, Woburn
Geo. H. Wakefield, Lunenberg
Ex-Chief Peter E. Walsh, W. Roxbury
James Warnock, Swampscott
Ex-Chief Earle A. Wheeler, Berlin
Russell J. Wilder, No. Scituate
Ex-Chief Andrew Williams, Hopkington

CONNECTICUT

Charles L. Boyington, Newington
Thomas F. Burns, Bridgeport
Edwin R. Burr, Stratfield
Lloyd J. Cameron, West Haven
C. J. Carrigan, Terryville
Thomas F. Cavanaugh, Waterbury
T. H. Donnelly, West Hartford
James A. Downey, Wallingford
Morgan B. Farrell, Bristol
Albert B. Foy, So. Manchester
Milton Galvin, Naugatuck
Ex-Chief F. R. Gisborne, Sound Beach
Leslie N. Hale, Fire Commissioner, Newington
Ernest Hansen, East Haven
Allen D. Judson, Stratford
Michael T. Keena, Hartford
Michael W. Lawton, Middletown
Frank Leigh, Fire Commissioner, Annex—New Haven
John H. McNamara, Danbury
Frank Meunier, East Hartford
George B. Milne, Rockville
John F. Moroney, Meriden
John S. Pachl, Annex—New Haven
Stuart M. Potter, Greenwich
Lawrence E. Reif, New Haven
Charles A. Reynolds, Willimantic
Winthrop Short, Danielson
Lewis F. Stowe, Milford
William F. Sturges, Richfield
Henry R. Taft, Norwich
Victor H. Veit, Stamford
Charles A. Volk, Norwalk
Edward A. Von Holtz, Fire Commissioner, Fairfield
George Wellington, Fire Commissioner, Bridgeport
James R. Wiltse, East Haven
John Jos. Sanger, Sound Beach

RHODE ISLAND

Irving S. Black, U. S. Rubber Pro. Co., Providence
Frank J. Callahan, Central Falls
A. J. Cote, Woonsocket
Thomas H. Cotter, Providence
Frank H. Coughlin, Johnston Hose Co., No. 3, Manton
Ex-Chief Morris B. Drew, Valley Falls
Michael Fogarty, Fire Marshal, No. Providence
Henry E. Fortier, Manville
Lionel P. Gareau, West Warwick
Joseph S. Lawton, Newport
Daniel A. Nichols, Barrington
Columbus Pasetti, Westerly
R. W. Rodman, Wickford
John A. Savage, Valley Falls
Napoleon Taupier, Pawtucket
Nathan W. Whipple, Jr. No. Cumberland
Daniel F. Young, Cranston

Associate Members Present at the Convention

MAINE

Erlon S. Noyes, Eastern Fire Equip. Co., Portland
Chas. B. Rutledge, Fire Apparatus & Equip., So. Portland

NEW HAMPSHIRE

Fred M. Dodge, Dist. Chief, Concord
Robert W. Haskell, Claremont
Willard C. Pike, Fire Equip., Colebrook
P. N. Putney, Manchester
A. B. White, New Hampshire Asso. of Ins. Agents, Keene

VERMONT

W. H. Adams, Sec'y-Treas., Vt. State F. Assoc., Vergennes
Wm. E. Carty, Asst. Chief, Burlington
Howard J. LeBouf, Vergennes
Charles Roscoe, 1st Asst. Chief, Vergennes
Norton Wilson, Brattleboro

MASSACHUSETTS

Wm. F. Abbott, Eureka Fire Hose, Shrewsbury
Lewis.. R. Aikman, Heil Co., Watertown
Fred B. Alger, The Seagrave Co., Middleboro
E. W. Allen, Medfield
Everett L. Angier, Gamewell Co., Newton Upper Falls
John J. Barker, Boston Coupling Co., Boston
Harry Belknap, Fire Engineering, Boston
Vincent A. Bolger, Dorchester
Wm. B. Boucher, Bright-Bumper Sales Co., Watertown
Wm. H. Brown, Lynn, Mass. United Pyro Chem. Corp.
Russell G. Brown, Mack Motor Co., Foxboro
Percy Bugbee, N.F.P.A., Boston
Lawrence Carolan, Jr., American LaFrance, Boston
Wm. J. Carroll, Pres. Rockwood Sprinkler Co., Worcester
Chas. "Sandy" Chapman, Boston
P. C. Charnock, New Eng. Ins. Cos., Boston
Robert A. Clark, Maxim Motor Co., Middleboro
Howard H. Cole, Dep. Chief, Scituate
A. Lee Cowles, Eureka Fire Hose Co., Boston
Gordon H. Creamer, Lieut., Holden
Capt. Harry A. Creamer, Holden
L. J. Creaser, Am. LaFrance, Boston
L. Dawson, Gamewell Co., Newton Upper Falls
Capt. John H. Day, Lynn
Lawbrence C. Donovan, "Among the Firemen," Boston Globe, Boston
Clarence Farrar, Hopkinton
E. F. Fisher, A. D. T. Co., Boston
Jas. B. Fitzgerald, Ben Ellis Co., Boston
Capt. L. A. Gilbert, Springfield
Jos T. Gorham, Gorham Fire Equip. Co., Boston
Chas. E. Gorman, A. H. Blanchard Co., Boston
Chas. L Gravelle, Woburn
Wm. A. Grouse, Brookline
Leslie A. Hapgood, Marlboro
F. J. Healy, Longmeadow
D. Hyland, Capt., Ware
Wm. T. Keannealey, Boston Sparks Assoc., Roxbury
Alfred Kinsella, Mine Safety Appliance, Belmont
M. Gale Lemoine, Homelite Corp., Quincy
Arthur E. Lindh., Justin McCarty Co., Boston
Gordon H. Litchfield, Ahrens-Fox Fire Eng. Co., Taunton
Daniel J. Looney, Sec'y, Mass. State Firemen's Assoc., Boston
Mason L. Loring, Dep. Chief, Hingham.
Harry Joseph Lovell, Boston
John H. Madden, Roslindale
E. L. Maxim, Maxim Motor Co., Middleboro
Leighton L. Maxim, Middleboro
Orrin B. Maxwell, Fabric Fire Hose, Boston
E. J. McCarthy, Gamewell Co., Newton Upper Falls
Justin A. McCarthy, Boston
Michael McGonigle, Boston
J. A. McLaughlin, Amer. Fire Equip., Boston
James E. Moloy, State Forest Warden, Woburn
E. G. Moulton, Ahrens-Fox Co., Worcester
Geo. H. Pettingill, Milton
Herbert K. Pratt, Box 52 Assoc., Bridgewater
Edward T. Ryan, Dorchester
James J. Ryan, Rockwood Sprinkler, Worcester
John F. Scully, Amer. Fire Equip. Co., Boston
M. A. Shaw, Maxim Motor Co., Middleboro
N. D. Sherwood, Rockwood Sprinkler, Worcester
Edward S. Simons, Boston
Earl Smiddy, Newton
Chas. T. Smith, Newton Center, Mass.
Vincent T. Stanley, Gamewell Co., Newton Upper Falls
Chas. E. Stewart, Mack Motor Truck Co., Allston
Frank Taft, Seagrave Co., Boston
Frank H. Tarr, Wenham. (Capt., Fire Dept.)
Hubert W. Tracey, Amer. Fire Equip., Boston
Jos. A. Webber, American-LaFrance & Foamite Industries, Boston
George H. Whitney, Fire Equip. Co., Boston
Herbert Williams, Supt., Fire Alarm, Cohassett
Phillip A. Wood, Fabric Fire Hose, Boston
Robert M. Wood, Fabric Fire Hose, Boston
Elwood A. Yoho, Taunton

CONNECTICUT

F. W. Beardslee, Mack Motor Truck Co., Bridgeport
Lieut. Harold E. Burgess, Danielson
Russell A. Glenn, Sr., Gamewell Co., Bridgeport
Arthur E. Harris, Dep. Chief, Meriden
Leon R. Meaney, Greenwich
J. H. Ringers, Fabric Fire Hose Co., Sandy Hook
Harold A. Strain, Am.-LaFrance & Foamite Industries, Milford
Ira A. Warren, Deputy Chief, Danielson

RHODE ISLAND

I. Arthur Swift, Midwestern Mfg. Co., Providence
Lieut. Everett I. Patt, Central Falls

OUTSIDE NEW ENGLAND

G. E. Bradbrook, C. G. Braxmar Co., New York
I. H. Case, FIRE ENGINEERING, New York
John T. Dwyer, Eureka Fire Hose Co., New York
Joseph H. Green, Eureka Fire Hose Co., New York
William Moeller, Atlas Fire Equip Co., New York
Earl Olson, Federal Elec. Co., New York
Fred Shepperd, Editor, FIRE ENGINEERING, New York
Harry G. Cavanagh, A. D. T. Co., New York
C. D. Stewart, Amer.-LaFrance & Foamite Industries, New York
Arthur G. Sullivan, Amer.-LaFrance & Foamite Industries, Elmira, N. Y.
Charles H. Fox, Ahrens-Fox Co., Cincinnati, Ohio
George H. Whitney, Fire Equip. Co., Boston
Herbert Williams, Supt. Fire Alarm, Cohassett
Phillip A. Wood, Fabric Fire Hose, Boston
Robert M. Wood, Fabric Fire Hose, Boston
Elwood A. Yoho, Taunton
John C. Schellin, Akron Brass Mfg. Co., Wooster, Ohio
Tom D. Britton, Republic Rubber Co., Youngstown, Ohio

HONORARY MEMBERS

Ex-Chief George W. Bogardus, So. Norwalk, Conn.
Ex-Asst. Chief Thomas F. Dougherty, New York
Frank Cushman, Washington, D. C.

NEW MEMBERS JOINED AT BURLINGTON, JUNE, 1938

Robert Nutter, Maxim Motor Co., Scarboro, Me.
Capt. Albert E. Strong, Cape Elizabeth, Me.
A. W. Coyle, Chief Fire Dept., Berlin, N. H.
Lawrence W. Gauthier, Ex-Fire Comm., Montpelier, Vt.
Chief Harold H. Kingsbury, Norwich, Vt.
Chief Henry E. Whitney Jr., Brattleboro, Vt.
George F. Brody, Marlboro, Mass.
Wm. Henry Brooks, "Boston Sparks Assoc," Boston, Mass.
Chief Gordon Cross, Hopinton, Mass.
Asst. Chief Robert R. Chase, Cheshire, Mass.
"Boston" Sparks Assoc." Boston, Mass.
Robert H. Johnson, Maxim Motor Co., Cheshire, Mass.
C. E. Jeffrey, Seagrave Co., Boston, Mass.
Chief M. Ewing Sprague, Leicester, Mass.
Raymond M. Simon, N. E. Rep. R. D. Wood Co., Worcester, Mass.
Everett J. Prescott, Worcester, Mass.
Asst. Chief Wm. F. MacMillan, Hopkinton, Mass.
Chester C. Woodcock, Dep. Chief, Rochdale, Mass.
Joseph C. Whitcomb, Maxim Motor Co., Middleboro, Mass.
W. E. Webb, 45 Marion St., Brookline
Dep. Chief Chas. L. Booth, East Greenwich, R. I.
Asst. Chief Geo. A. McKenzie, Westerly, R. I.
Chief J. Earle Tabor, No. Smithfield, R. I.
Asst. Chief John A. Hutchinson Jr., Old Greenwich, Conn.
Geo. J. Miller, Fire Comm., West Haven, Conn.

NORTH CAROLINA PUSHES MEASURE TO HAVE STATE PAY ALL FIREMEN

Firemen and Chiefs of State Hold Respective Conventions at New Bern—Teaching of Fire Prevention in Schools Advocated

By D. G. Spencer

JEROME B. FLORA of Elizabeth City, was re-elected President of the North Carolina State Firemen's Association, at a convention held at New Bern, N. C., August 8-12. Wilmington was chosen for the 1939 convention.

Clyde Hildebrand, Canton, was re-elected Vice-President; John L. Miller, Concord, Secretary; A. B. Horney, High Point, Treasurer, and Dick Joyner, Farmville, Statistician. Around 2,000 firemen and visitors from all parts of the State attended.

At the first day's session, the State Fire Chiefs' Association, met, attended by sixty-one Chiefs and Assistant Chiefs. They resolved to petition the Legislature to create a State volunteer Fire Department, the purpose of which would be to make volunteer firemen eligible for compensation when injured while on duty outside the city limits of the municipality in which they are employed.

Enactment of the proposed measure would make every volunteer fireman of the state a member of the State Firemen's Association, the Chiefs said. These firemen would receive annual compensation of one dollar. The proposed measure was prepared by Assistant Chief C. M. Griswold, Charlotte.

On indorsing the measure, Permanent Secretary Sherwood Brockwell told the association that it was the youngest in the United States and that it was probably the first to ask that fire fighting be made state wide.

The Chiefs also adopted a resolution advocating teaching of fire prevention in the state's public schools. Each Chief was instructed to prepare subject matters to be edited by a committee for possible use in textbooks.

The fireproofing of non-fireproof buildings of state institutions through use of PWA funds also was approved and the Secretary directed to write to Governor Hoey informing him of the association's action.

President W. Hendrix Palmer presided over the meeting of the Chiefs.

At the second day's meeting the firemen's association held business sessions, attended by more than 500 members, at which reports of the association were reviewed.

At the third day's session all officers were re-elected. A parade, baseball game and unveiling of a monument erected in honor of Edgar Elliott, New Bern fireman drowned in a waterfront fire seven years ago, were the features. A banquet was held the night of the third day.

Thursday, the final day, was devoted to reel races and truck races.

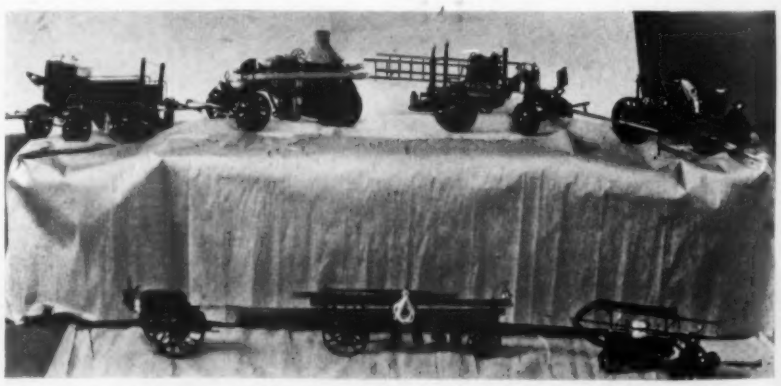
Monday night the firemen were honored at a gala dance, with fireworks display, at Atlantic Beach on the coast.

Tuesday afternoon a street dance was held. A memorial service was held Wednesday morning at the Masonic theatre in memory of all State firemen who have died since the last annual convention at Greensboro. Wednesday afternoon there was a street parade.

So enthusiastic were the Chiefs over the proposal that a bill be presented to the General Assembly providing for creation of a state volunteer fire department, they voted unanimously at a special session, prior to the opening of the annual convention, to work under its provisions even should the Legislature fail to enact it into law.

All active firemen in the State approximately 4,000 strong would become members of the proposed state organization. Their annual pay of one dollar each would go in a lump sum from the State Treasurer to the State Firemen's Association, and would be used for general relief among firemen and for educational purposes.

Under the plan, there would be state liability insurance for firemen hurt while serving for fire, flood or other emergency outside the the municipality in which



Fire Apparatus Models Made from Discarded Material

A wide variety of discarded materials was utilized by James R. Jackson, a member of the Oswego, N. Y., Fire Department, for making fire apparatus models during his spare time. Old tin cans furnished the metal for the models, tooth picks the ladder rungs, tooth paste caps the wheel hubs and radiator caps, rubber tubing the suction hose, ash tray tires became the tires for the wheels, adhesive tape folded over became the hose lines, old coffee cans bent to shape became the fenders, checker pieces, the fly wheels for steamers, dowels were converted into chemical extinguishers. Dowels also were used for lanterns, light supports, ladder rolls, etc. The steamer boiler is an old tomato can. These models have been exhibited in a number of places. Not shown in the photograph are models of an American-LaFrance pumper, and a Seagrave aerial.

they are employed. Permission for taking fire apparatus outside the city limits would be vested in the town's Mayor and Council. Senior fire officers would be in charge at the scene with the State Marshal ranking as Chief.

Fire Chiefs voted to telegraph Governor Clyde Hoey their endorsement of his campaign to obtain PWA funds for fireproofiing state buildings now in existence and being used for deaf, cripples, insane and prisoners.

WHAT FIRE CHIEFS THINK OF ELECTRICAL PROTECTIVE SAFETY PROGRAMS

Officials Give Views on Prevention of Fires of So-Called Electrical Origin

By Thomas W. Parry, Jr.
Manager, Business Research Bureau, St. Louis

IN nearly seven out of every 10 United States cities and towns, there were fires last year which could have been prevented, if someone had not side-tracked or misused the electrical protective device.

This was one of the more striking facts indicated in a survey on fire prevention just completed by the Business Research Bureau among a representative group of Fire Chiefs in cities and towns of all sizes and in all parts of the nation. Out of 79 Chiefs contacted by a mailed questionnaire, 75 answered a query bearing on fires caused by tampering with protective devices. Of these 75 officials, 52, or approximately seven out of each 10, said that abuse of electrical protective devices had accounted for at least one fire in their communities in 1937.

Fires Caused by Fuse Tampering

Six of the Chiefs in this latter group said they were unable to estimate the actual number of fires which could have been prevented had there been no fuse-tampering or use of over-size fuses. The other 46 listed a total of 279 preventable fires, or an average of six in each community. It is interesting to note that this number was nearly one-fourth of all the fires listed as of electrical origin in these 46 cities.

The proportion probably was much higher, because of the difficulty of finding evidence of tampering in many cases and the unwillingness of Chiefs to list any cause for which they do not have absolute proof. One of the Chiefs, L. B. Hill, Bessemer, Ala., where there were 281 fires last year, said his investigation had shown that five of the six fires which were listed as of electrical origin, were due to the fact someone had manipulated the fuses so that they could not blow out and thus fulfill their natural protective function. Several others agreed that a very high proportion of electrical fires could have been prevented by proper use of fuses.

Require Use of Non-Tamperable Fuses

Further indication that Chiefs are concerned with the misuse of protective devices was seen in the fact that 11, or 14 per cent, of the officials answering the questionnaire said that their cities already had adopted ordinances or rulings requiring the use of non-tamperable fuses, which cannot be bridged with pennies or easily sidetracked in any other way, and cannot be replaced by a larger size. Such a protective device has recently been made available by several manufacturers. They require only an adapter to be used in present fuse bases.

The other officials were in almost unanimous agreement that an ordinance or ruling requiring the use of non-tamperable fuses was desirable. Only one of the Chiefs who answered the question on this point said he was not in favor of such a regulation.

Inspection and Educational Programs Advocated

Many other interesting facts on fire prevention were revealed by a request for personal comments, to which about one-third of the Chiefs responded on a blank page of the questionnaire. Most frequent among the ways in which they stated fires could be reduced were periodical inspections of all homes and buildings, to reveal hazardous conditions, and more intensive programs of education to teach the public the causes of fires and how to avoid them.

Chief F. R. Reilly of Woodward, Okla., who carefully analyzed the main causes of fires in his community, said his experience had convinced him that

"in nearly every instance, the fire could have been prevented had ordinary fire prevention rules been followed.

"The answer appears simple: Effectively educate the home-maker in recognized fire prevention measures. But here is our real problem—how? Statistics of recent years show that educational programs promoted by Fire Departments and fire prevention associations have been to some degree effective in reducing the number of fires, but not enough so.

"The problem now resolves itself into the question: What is the *ideal* method of teaching fire prevention to the public? Here is my answer—through the public school system, the recognized foundation of all education. If an adequate and comprehensive fire prevention and safety first text were included as a required subject in the curriculum of every public school from the first grade to senior high, a credit offered in it, and pupils graded on their achievement at home as well as in class, I believe that we should at least be approaching the ideal."

Inspectors Should Be Trained

A suggestion in regard to inspections made by Chief Thomas H. Cotter of Providence, R. I., appears well worth consideration. His comment was that it is necessary that inspectors be men "whose training and experience have brought them into contact with the results of negligence," so that they can explain—clearly and conclusively—the reason they consider certain conditions hazardous.

Frequently, Chief Cotter stated, an inspector may be able, when pointing out a dangerous condition, to emphasize it with "some apt illustration which has been brought to his attention," showing the disastrous result such a condition has had in the past. "I believe that the surest method of reducing losses by fire, in the home, factory and workshop," he said, "is by frequent inspection of premises by trained men who will point out hazards with conclusive reasons."

Fire Prevention Education in Schools

Chief Cotter also mentioned the desirability of fire-prevention education in the schools. He stated:

"It is my opinion that pupils in our schools from the primary grades up should receive instructions which, if carried out systematically, would undoubtedly be helpful in the home and—with apt illustrations—might result in closer attention to apparently trivial matters which frequently lead to serious loss of property and perhaps loss of life."

Educate People to Call Fire Department At Once

Acting Chief Carl J. Kiessling, of Worcester, Mass., included among his suggestions urging the public "to call the Fire Department immediately instead of trying to put out a fire without aid." This bit of advice undoubtedly will remind most fire officials of incidents where loss was unnecessarily great because of a delay in summoning the department.

Other items which Chief Kiessling listed were:

"More inspections to prevent the accumulation of rubbish. Inspection on the part of the property owner for defects in electrical equipment and appliances. Annual inspection of dwelling houses, as conducted by this department. Installation of sprinkler systems in mercantile and public buildings. Frequent cleaning of chimneys."

Other suggestions which appeared most frequently were that wood shingle roofs, which apparently are an important cause of fires in the older sections of many communities, be prohibited by law, and that the public be urged to use particular care in burning trash. One Chief suggested that part of the nation's annual fire bill could be prevented if the arson laws were made more strict and convictions under the laws more easy to obtain.

Fog Nozzles for General Use

Each company of the Los Angeles, Cal., Fire Department, is furnished with an Elkhart fog nozzle. In all, there are ninety-four nozzles, with the balance being held in reserve.

While primarily intended for fighting oil fires, they are also used for other types of blazes. The recommended practice is to keep the nozzle attached to the 1½-inch nozzle butt at all times. By a simple control, the fireman can obtain fog or a solid stream. With an adapter they can be attached directly to the hose, or in the manner stated.

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Ignition: Means "taking fire" from the application of heat or friction.

Incendiarism: The act or practice of maliciously setting fire to structures.

Independent Wall: An outside wall carrying loads of but one building.

Inflammable Air: Another name for hydrogen gas.

Isolated: A building is isolated when it stands alone with no other buildings in vicinity.

Questions

(To Be Answered in Next Issue)

1. Give a description of each of the following, state the use and purpose of each and the equipment necessary to place each in service:
   (a) Baker Pipe
   (b) Bresnan Distributor
2. Assume a fire has broken out on the 5th floor of a large office building equipped with a standpipe. You receive orders to lay a three-inch line of hose from the nearest high pressure hydrant and connect to the standpipe; you find you cannot connect to the siamese connection on the front of the building, the threads being damaged. Explain how you would proceed to connect and to operate the standpipe.
3. Explain in detail how you would proceed and what instructions you would give to safeguard the men under your command if, when leading them into a building in which you found that an ammonia tank was leaking.

False and True Questions

(Is Each Question False or True? Answers in Next Issue)

4. T F—There is a dust explosion hazard in a printing office.
5. T F—There is a dust explosion hazard in a sugar refinery.
6. T F—It is better to transmit a third alarm by telephone than by fire alarm box.
7. T F—The members of a truck company should always ventilate a building on fire immediately after arriving.
8. T F—Carbon-dioxide is the cheapest fire extinguishing agent.
9. T F—Oil switches used in connection with transformers are sometimes arranged to operate from outside the transformer room.
10. T F—Arson is usually the business of a criminal without conscience.
11. T F—The crime of murder is sometimes covered up by the crime of arson.
12. T F—It is the duty of the first officer to arrive at a fire to try to determine the cause of the fire.
13. T F—Electrical "explosions" can be caused by carelessness of firemen in letting water get through transformer vault ventilators.
14. T F—Fires outside of electrical transformers, due to the spread of oil to surroundings, are more serious than are those which are confined to the transformer.
15. T F—Exposure fires are sometimes caused by reason of walls falling or roofs collapsing.
16. T F—An exposure, as referred to in the Fire Department, is sometimes located in the same building as the original fire.
17. T F—Pyroxylin finishes, having a nitro-cellulose content, are both inflammable and explosive.
18. T F—An important disadvantage of the pump type extinguisher is the fact that it cannot be kept from freezing.

Completion Statements

19. At a fire, if necessary, two company lines, when both lines end with a female coupling, should be connected together with the aid of a .....
20. To rip open the ceiling wherein a fire is concealed, a ..... is usually used.
21. The chief difference in operating streams from Hart and Baker cellar pipes is .....
22. There is danger in cutting down the stream range of a cellar pipe if the pipe is directed .....

Answers to Questions in Previous Issue

1. Order water shut-off at engine or hydrant. Disconnect line on the street, at the next coupling to the building, and put in a good length of hose. Remove the roof rope from the hose and from the support on roof to which it is attached, and hoist the line to the roof. Take out the burst length on the roof, recouple up again and let the hose come back over the hose roller and make it fast again with roof rope, as it was before.

2. (a) Eastman platform is used in connection with the Perfection holder with a tripod. Stretch out two lengths of 2½-inch hose and one length of 3-inch for a lead line, and connect to siamese connection, which will be a two-way, 2½ by 3-inch connection. Then put on Perfection pipe holder with 1½-inch, 1⅜-inch or 1¼-inch nozzle, and place base of Perfection holder in Universal swivel socket in center of Eastman platform, which receives the rod of any Perfection holder. Tighten up set screw in swivel socket, and the layout is ready for operation.

(b) Stretch out one length of 3-inch hose and two lengths of 2½-inch, the 3-inch hose being adjacent to hydrant or engine. If lines are to be operated independently, use a two-way Y gate connection, 3-inch x 2½-inch. Connect lines to Y connection, and put on 1¼-inch nozzle on each of 2½-inch lines. Smaller nozzles may be used, the 1¼-inch being the largest size permissible for a short stretch of 2½-inch hose.

3. Position taken is usually at opposite curb. Stretch in three lines of hose, from engine or hydrant to hose wagon. If 2½-inch hose is used and 3-inch outlets are provided on the wagon, increasers will have to be employed on each line. If 3-inch hose is used and 3-inch connections are provided on wagon, no reducers or increasers will be necessary. If 3-inch hose is used and 2½-inch connections are provided on wagon, reducers, 3 to 2½ inches, will have to be used at connection. Increasers or reducers will have to be used under similar conditions at hydrant or engine. After connecting up lines securely, proper size tip is put on deck gun, which, in this case, would probably be 1½-inch, and the layout is ready for operation. If layout is short, a larger tip may be employed, such as 1¾-inch, or in an emergency, 2-inch. However, the size of tip commonly used for wagon pipe streams is 1½-inch.

4. True; 5. False; 6. False; 7. True; 8. True; 9. True; 10, False; 11. True; 12. False; 13. False; 14. True; 15. True; 16. True; 17. False; 18. False; 19. False; 20. True; 21. True; 22. True.

23. . . . dismissal.
24. . . . lighter . . .
25. . . . heavier . . .
26. . . . less . . .
27. . . . less . . .

Chiefs Meet at Norfolk, Conn.

Eighty members of the Litchfield County Fire Chief's Emergency Plan met on August 8 at Norfolk, Conn. It was a home-coming meeting for the President of the Plan, Chief John H. Griffin of Norfolk.

Chief Griffin opened the meeting by calling upon Captain E. C. Farrington of Norfolk, who delivered an address of welcome to the visitors. Captain Farrington told of the efforts in Norfolk to properly equip its department and gave a brief outline of the history of the department.

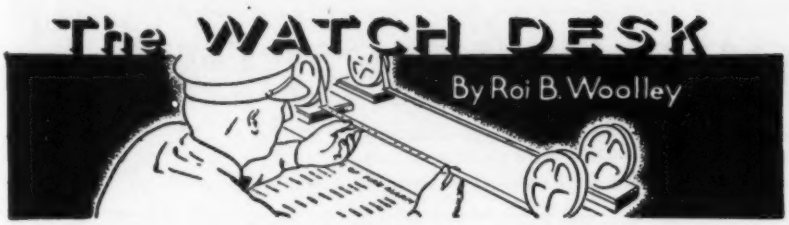
Questions from the Plan's Question Box, several of which were in relation to the proposed legislative action, were discussed at length. Among those who spoke were Chief Lynn Deming, New Milford; William O'Connor, Norfolk; Chief Cornelius Carrigan, Terryville; John J. Doherty and Chief Don McPherson, Winsted.

Through the courtesy of the Aetna Life Insurance Company of Hartford, several reels of film were displayed showing fire apparatus responding to alarms, the proper method of turning in an alarm, and how many fires are started through the use of faulty equipment and carelessness.

Chief John H. Griffin, President of the Plan, joined the Norfolk Fire Department in 1917. He was elected Chief three years later and has held that office ever since. From 1934 to 1935 he served as President of the Connecticut State Firemen's Association.

Following the meeting, the Norfolk firemen served refreshments. The next meeting will be held at Litchfield on September 12.

THOMAS F. MAGNER.



Our inquiring reporter overhauls the firemanic news of the day.

Vols Go on Strike

Seventy-five members constituting Old Forge (Pa.) Vol. F. D. went on strike last month because their petition to Village Council for new equipment and appropriations for gas and oil had gotten no results. When a false alarm sounded on the 22nd, the truck did not respond.

Near "Blow Out" For Firemen

O. C. Forsman, Flora (Ill.), called firemen of Evansville (Ind.) to extinguish fire in his truck. They beat out flames on floor boards and on some wooden boxes Forsman was hauling to Kentucky. The fire "braves" were considerably disturbed when they were told by Forsman what was in the boxes . . . 400 pounds of dynamite!

They Still Do It!

Penny-saving may be "pound foolishness" when the "bank" is an electric fuse box. Claude Axtell, Dansville (N. Y.), found this out when he inserted a penny to complete the circuit after a fuse had blown out. Resulting fire almost burned his house down. Same carelessness caused a half million dollar blaze in Chicago a few years ago.

Gets Good View—And A Scolding

Harold Harris, aged 7, Nichols (Conn.), whose father won a major sweepstakes prize some years ago, was stranded on a cupola of firehouse under construction, where he had climbed to investigate a new siren. Members of police and F. D. helped boy to ground after he found himself unable to descend.

"Sidewalk Chief" Seized At Blaze

Edward Langwasser, former Town Commission candidate of Irvington (N. J.), and consistent critic of emergency squad of the Irvington F. D. was haled before Police Recorder Thomas J. Holleran, of the town, for hearing on charges of interfering with fireman at a fire, disorderly conduct and resisting arrest. What makes item interesting is fact that Langwasser, a 31-year old pro' football player, joined with friends some months ago in constructing a white truck, patterned along lines of town's $13,000 emergency truck and succeeded in amusing citizenry and annoying public safety officials for several weeks, as his "crew," masked and appropriately costumed, rode through the town, extinguishing cigar butts with spouting seltzer bottles, and rescuing toy cats from trees. So, when the real emergency squad was working at a fire, and Langwasser described the crew's work in "unflattering language" and refused to "move along" when ordered, he was pinched. Langwasser's campaign against the emergency squad grew out of the fatal burning of a lineman in a manhole some time ago. The critic is said to have expressed opinion that the squad could have saved the victim.

14 Boys Perish in Firemen's Practice Fire

At Colmbra, 100 miles north of Lisbon (Portugal), when a gasoline soaked building was set afire for a fire-fighting exhibition, 14 boys died and six were seriously burned and others injured among stampeding spectators.

The boys, many of them sons of firemen, were hired for 45 cents to play the part of tenants in a four-story wooden structure. The fire brigade, located only 400 yards distance, was to "rescue" the tenants. When the structure was ignited, blaze swept swiftly through flimsy structure and spectators hindered arrival of firemen. Two boys died in flames, eight were killed by jumping and other victims died later in hospitals. The "Inspector" of the fire brigade is said to have set the fire. He, with the Commander of the Brigade, was arrested.

Fire Alarm Becomes Dinner Bell

At Northumberland (Pa.) the town's fire alarm became part-time service as a dinner bell. At request of parents, the Council changed the daily alarm test from 7 a.m. to noon "to notify school children at play that meal time has arrived."

Fire Turns In Its Own Alarm

At Norwich (N. Y.) an alert telephone operator saved the Norwich High School from possible destruction by fire. Flames began near a telephone pole and burned a cap off a receiver, permitting it to drop and flash a signal to the operator, Miss Marion Tobey. She summoned firemen who nipped blaze.

Hot Off The Ticker

Weary of requests to rescue tabbies, Chief Earl W. Schwartz, Harrisburg (Pa.) F. D., issued this pronouncement: "Rescuing cats from poles or trees is not included among the duties of a fireman." . . . When William Strudison's auto caught fire in Lawrence (Mass.) at a filling station a well meaning bystander emptied what he thought was a bucket of water on the flames. Bucket contained gasoline. Yep, the car burned. . . . Firemen of Pocantico H. & L. Co., North Tarrytown (N. Y.), were called to shoo sparrows from rafters of a theatre. . . . Believing the auto driven by her husband was afire, Mrs. Erma Riddle leaped from car as it sped down a hill near Clintonville (Pa.) and received injuries from which she died. Brakes had become overheated. . . . New York City tackled two queer blazes within month of each other. One was in a catwalk on Hell Gate bridge 150 feet above the water; other was in shaft of Queens Midtown Tunnel, 120 feet below surface of water. . . . Pittsburgh papers referred to the Military Engineers' Society in an observation tour of Pittsburgh as watching *"the 85-foot 'Peter's Perch'"* aerial truck. . . . When water supply ran out at a farmhouse fire near Bethal (Transval), milk was successfully used to quench blaze. . . . Harry Tracy, 66-year old farmer, chased wife out of his house at point of a shotgun, later told Magistrate he was angry because she failed to pay fire insurance premiums and lightning struck his barn and it burned. . . . Fireman Edward Moore, aged 57, Eng. 7, Paterson N. J.) F. D., died of heart attack while fighting fire in pile of empty oil barrels. . . . Heavy forest fires on Coast caused great damage; reported lightning started over 250 blazes; over 6,000 persons fought fires. . . . One of oddest of July 4th news items was that of Manhasset-Lakeville Fire Company No. 4, which took advantage of New York City's prohibition of sales of fireworks and opened a store at Little Neck, five blocks east of city line, from which firemen sold fireworks (mostly to kids!). . . . Floods in Westchester County and New York City flooded F. D.'s with calls to pump out basements. . . . Rex II, prize Dalmatian of Eng 8, N. Y. F. D., was thrown from the company's truck and killed under its wheels. He got an honorable and special burial. . . . The thing that causes the arrest of most pyromaniacs is the fact they can't resist watching the fires they start. . . . When a fire destroyed three rooms of a government building in Berlin (Germany), Nazis arrested 11 workers. . . . Two girls died and three firemen of Middletown (Conn.) F. D. were injured in attempt to rescue them. . . . Lightning set the 12th Century Mittersill Castle near Vienna (Austria) afire; practically a total loss. . . . At Owego (N. Y.) firemen responding to an alarm of fire, rushed to firehouse only to find their hose truck missing. Fellow firemen had taken it to rescue a kitten from a tree. . . . Failure of power plant in Hudson (N. Y.) left community without electricity for five hours—gave F. D. officials jitters.

* * *

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair —if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire fighting, etc. Address "Editor, Watch Desk."

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Rescue from High Voltage Wire

To the Editor:

I would appreciate if you would answer the following problem.

A man going to work early in the morning, stepped on a broken electric wire carrying 2,200 volts alternating current. The day was very foggy so that he was not discovered until later in the day. The Fire Department was called and was about ten minutes shutting off the current. The man was removed dead, and badly burned.

What would have been the proper and safe way to have handled the above?

E. K. K.

Answer: The proper way to have rescued the man from the high tension wire would have been to either move him off the wire or draw the wire from under him, using a piece of dry wood or a pair of high tension safety tongs for the purpose.

There would be practically no danger to the men doing this work, as long as they did not come in contact with the wire and as long as the piece of wood they employed was comparatively dry.

The wire tongs are safe to use under all conditions. Pike poles, wooden ladders or any other implements made of wood and having no metal on them to conduct the current to the hands of the persons using them, would answer equally well.

Fire-Proofing Gasoline

To the Editor:

I would appreciate some information about gasoline and carbon-tetrachloride.

It is my understanding that these two liquids, if properly mixed together, can be safely used without any chance of explosion. I have done some experimenting, using one half tetrachloride and one half gasoline, but the mixture still burns, though the flash is not as lively as if it were pure gasoline.

When you advise what proportions to mix, will you kindly advise whether it is by weight or by volume.

W. E. S.

Answer: References to various handbooks indicate that a mixture of approximately 50 per cent carbon-tetrachloride and 50 per cent gasoline is not inflammable.

It is possible you will get a flash over the liquid, but the liquid itself should not burn.

Ordinarily, carbon-tetrachloride will vaporize more quickly than gasoline, so that while you mave have a 50-50 mixture at the start, the proportion of carbon-tetrachloride will be reduced in time.

The percentages given above are by volume.

Capacity of 2-Inch Main

To the Editor:

In our water system we have several thousand feet of two-inch water main.

Would it be practical to install fire hydrants on a two-inch line fed at both ends?

Our suction hose has a 2½-inch connection.

R. E. F.

Answer: A two-inch pipe line, even if fed at both ends, could not be expected to deliver one good standard fire stream. As a matter of fact, the smallest sized main which the National Board of Fire Underwriters recommends for fire streams is eight-inch, although six-inch mains will usnally give four good streams, and a four-inch main, two, provided the line is not too long.

If you are to use a line of hose with a nozzle smaller than one-inch, you will probably get one satisfactory stream from a two-inch pipe line.

Reduction Factors

To the Editor:

An inquiry some time ago for the reduction factor of four lines of 1½ hose was given as 12.4. These lines were taken from a siamese and were fitted with a ½-inch nozzle. The reduction factor for four lines of 2½-inch hose was also given as 12.4. Is this correct and how do you arrive at this reduction factor for all sizes of hose? Is there a formula, or are they based on experiments?

P. L. W.

Answer: The factor for reducing four lines of 2½-inch hose to a single line of 2½-inch hose is 12.4.

The factor for reducing a single line of 1½-inch hose to 2½-inch is .074.

The factor for reducing four lines of 1½-inch hose to a single line of 2½-inch hose is 12.4 × .074, or .9176.

"False and True" Questions

To the Editor:

I would appreciate your clearing up for me several conflicting answers to promotional examination questions that appear in a book by another author and "Questions and Answers for Lieutenant and Captain," by Kuss-Shepperd.

On page 105 of the Kuss-Shepperd book to question No. 13, the answer is "true."

On page 834 of the other book, to question No. 62 the answer is "false."

On page 106 of the Kuss-Shepperd book the answer to question No. 2 is "true."

On page 835 of the other book the answer to question No. 62 is "false."

On page 108 of the Kuss-Shepperd the answer given to question No. 16 is "true."

On page 832 of the other book the answer to the same question is "false."

On page 105 of the Kuss-Shepperd book the answer to question No. 7 is "false."

Most promotional books state that carbon dioxide is not only dangerous if inhaled, but will prove fatal, due to the fact that it consumes the oxygen in the lungs, causing suffocation. Is this theory correct, or is your answer correct? Will you explain fully?

Will you explain the definition of a loft building? Does this definition fit the building code definition of all cities?

J. J. K.

Answer: The answers to all four questions referred to above are correct as given in "Questions and Answers for Lieutenant and Captain."

Statement No. 13, "Rags or waste saturated with petroleum oils such as kerosene, gasoline and naphtha are not subject to spontaneous combustion," is "true," because spontaneous ignition does not occur in mineral oils. It is vegetable and animal oils which are subject to spontaneous ignition.

Statement No. 2 is as follows: "Ventilation adds to the probability of so-called hot air explosions." This statement is also "true." So-called hot air explosions occur when a building in which fire is smoldering is vented by opening window, door or other vent. However, proper ventilation minimizes the likelihood of them.

Statement No. 16, "The chief fire hazard from the hot air system comes from the blower or intake," should be answered "true." Hot bearings and accumulated dust have caused more fires in this type of installation than any other single cause.

Statement No. 7, "Carbon dioxide is

Completely

ALUMINUM LADDER Equipped!

This is the first fire truck in the country to be outfitted entirely with ALUMINUM LADDERS

About two years ago the Allentown, Pa., fire department purchased this hook and ladder truck and equipped it completely with ALUMINUM LADDERS. The man responsible for this purchase is Chief Erb, who stated emphatically, that nothing can replace Allentown's ALUMINUM LADDERS.

Chief Erb is satisfied that ALUMINUM LADDERS are lightest in weight, easiest to handle, able to stand great weight without bending, unaffected by extremes of temperature, that they will never splinter, rust or burn, and do not need finishing of any kind. Allentown's confidence in ALUMINUM LADDERS tells its own story. Why not investigate?

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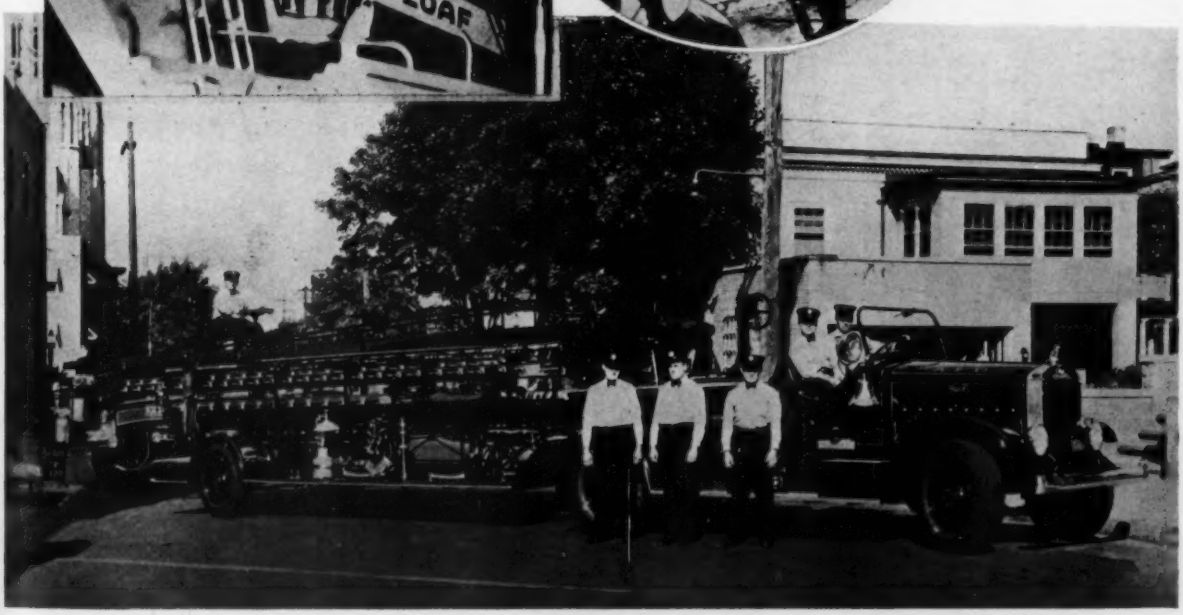
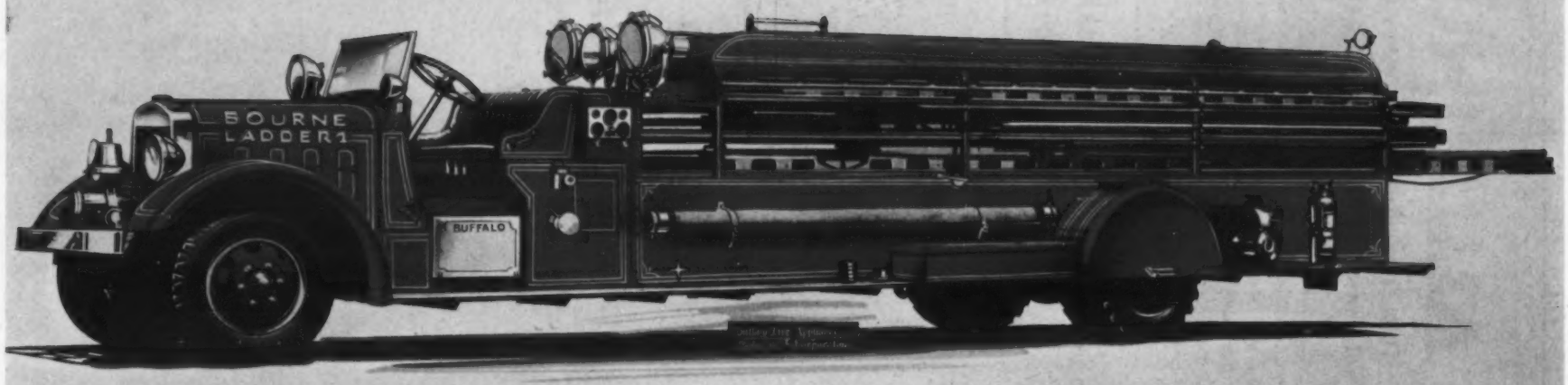
When ordering new trucks or replacement ladders specify ALUMINUM, the first cost is the last cost



QUALITY IN EVERY LINE
★ ★ IN EVERY DETAIL



500 gallon Quad. for Bourne, Mass. Equipment includes 260 ft. of ladders, 200 gallon booster tank, 600 ft. of 2½" hose, 1000 ft. of 1½" hose, and other special and miscellaneous accessories. This is the fifth Buffalo Fire Truck to be placed in the service of the Bourne Fire Department.

BUFFALO *Better-Built* FIRE APPARATUS

BUFFALO *Better-Built* FIRE APPARATUS

HOW do you choose your fire apparatus?—If performance on the job is what you want, you can be sure of it with Buffalo Better-Built Apparatus as hundreds of "Buffalo" users will tell you.

If Known Values are the basis of your choice—"Buffalo" again measures up to your most rigid specifications, because Buffalo Apparatus is made of the finest time-tested materials and units available. For instance—Hercules Motors, Hale Pumps, Brown-Lipe Clutches and Transmissions, Spicer Universals, Timken Axles, Lockheed 4-Wheel Hydraulic Brakes, Parish Chome-Nickel Steel Frames, Zenith Carburetors, Ross Steering Gear, Delco-Remy Ignition.

If square dealing is what you want, we offer our record since 1889.

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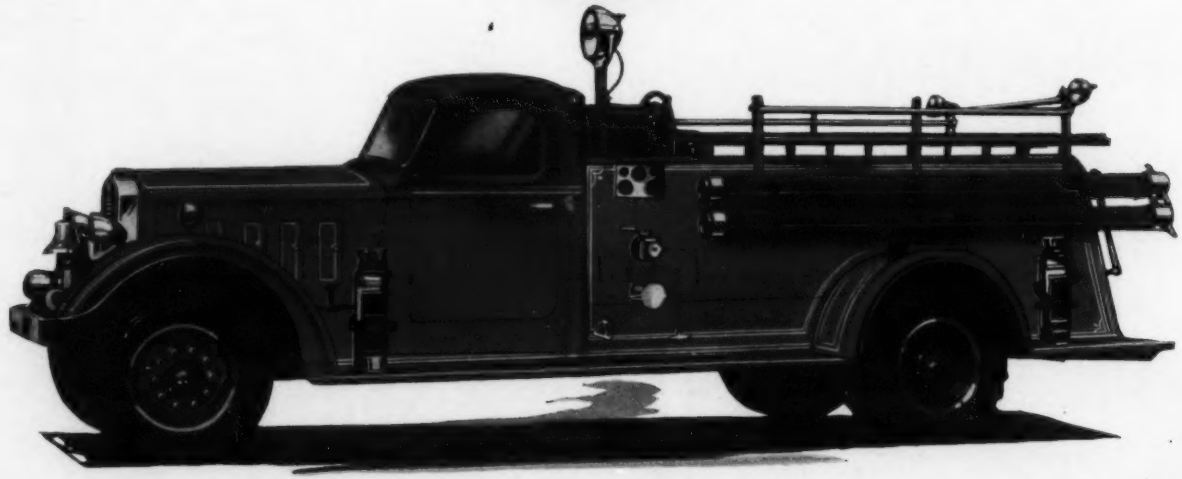
Write for our latest catalog showing complete line of pumpers, ladder trucks, and other important fire-fighting equipment. Sent free on request.



BUFFALO FIRE APPLIANCE CORP.

44 CENTRAL AVE. BUFFALO, N. Y.

dangerous if inhaled," should be answered "false." The question does not state the quantity to be inhaled nor the period of exposure to the gas. It is therefore correct to assume that the question is intended to bring out the information as to whether or not the gas is poisonous. Carbon dioxide is not poisonous. It is continually being inhaled, along with the other ingredients in the atmosphere, but produces no ill effects. However, if sufficient carbon dioxide is present in the atmosphere to dilute it to a point where insufficient oxygen remains for sustaining human life, then suffocation will result. In this case, deficiency of oxygen would be the cause of the fatality.

A loft building is usually interpreted to mean one occupied by a number of manufacturing tenants.

This definition would probably be too broad to fit building code definitions of all cities.

By William Paul Babcock

"I Never Read Books"

MANY times we have heard this statement made by firemen and even, I regret to say, by Fire Chiefs, both paid and volunteer. Well, I'm hoping that there are many firemen and officers reading this column now, because it may help them, especially if they are not very old hands at salvage work.

Speaking, as I was last month, of my old friend Deputy Chief Wilkinson, Newark, N. J., reminded me of this episode in my life which taught me more than appears on the surface.

About five years or so ago, I secured through him the privilege of turning out with Engine 7 of Newark, in order to get more actual fire fighting slants, whereas I had previously concentrated exclusively on salvage.

I shall never forget the hospitality those boys extended to me.

One day we rolled to a box and came upon a little, old three story frame store and dwelling, apparently going strong from limb to gut, smoke pouring out from under every clap-board. Seven engine was assigned to the top floor with a booster line and up we went.

Incidentally, this was the smokiest fire I ever experienced and yet nobody was wearing a mask or what have you and I later discovered the reason was because nobody had run to this fire on his legs, nor was anybody excited or short of breath for any other reason. Never before had I been so impressed with the fact that the professionals just take smoke in their stride—all in a day's work.

Well, as I have said, being mostly interested in salvage work, I noticed that the "Protectives," as they are called in Newark, were on the fire grounds when we rolled in. But when we reached the top floor and found most of the fire in the attic, I was surprised to find no "covering-up" in progress and in fact none was done until we were about ready to back down.

After the fire Chief Wilkinson (then a "Batt"), took me on a tour of inspection of the premises and showed me how neatly the other units had stopped the progress of the fire in the side walls (it started in the basement), without tearing the old house entirely apart.

And even here indications were that the Protectives had delayed operating at this point, so I inquired why, and was very politely informed that had I been at all observant, I should have seen that the highest value was in a ladies' fancy shoe store on the ground floor and that salvage operations had been concentrated at that point.

Shades of Jimmy Durante!

It was true, for on the second floor was merely a small office and a moderately furnished apartment and the top floor was of the latter class.

So, as I was saying, if some fellow who, like myself at that stage, thinks he knows something about salvage work, is like the old timers quoted at the head of this column, then he isn't going to learn helpful little hints about fire fighting from reading this and other publications designed for his benefit.

Also speaking, as I was, of Captain Johnston, he let you know always that, although he knew a great deal about fire fighting, he never admitted having his fill and he so heavily impressed me with that spirit that I have today perhaps an inferiority complex on what I don't know. But I recall one time when this "syrology" came in handy.

I was motoring down to Maine and Captain Sid had said "When you go through Boston stop in and meet my friend Captain Abbott of the 'Protectives' (salvage to you)." So when I reached Beantown, I sure did look up their station and added to my insurance inspector's card, which I handed to the man on watch, *"Captain, Nyack Fire Patrol."* I was finally admitted to the Sanctum Sanctorum and very coolly received at first with "Well, sir, what can I do for you?" Fortunately for me, imbued as I was with the Johnstonian idea, I replied, "Well our mutual friend Captain Johnston said I could learn something about salvage work here." To which he replied "But from your card I don't think we can show *you* anything about salvage work." So I insisted, "Well, I don't know it all." That saved the day for me, for Captain Abbott then said:

"Well, then there's hope for you, *sit down*" and became as chummy and helpful as we all know a good fire officer can be when the spirit moves him.

So, "take due notice of these and govern yourselves accordingly."

I wonder if Captain Abbott is still in service—?—

* * *

O, by the way, if we have finally disposed of the matter of the size of covers, let's turn to *new business!*

(Reminds me of a movie used by a certain salesman wherein a rooster is chasing a hen and the caption is "It's new business I'm after!")

Some salvage officers like short ropes tied through the grommets of their salvage covers, and some do not.

Now, personally, I have never actually seen them used, although I have seen some equipment thus prepared. To the best of my recollection whenever ropes were needed for tying covers, while I was obstructing the view of the New York Patrol, they had them available on trucks, on belts, in pockets, etc., and applied them, as the bond brokers say, "When, as and if" needed.

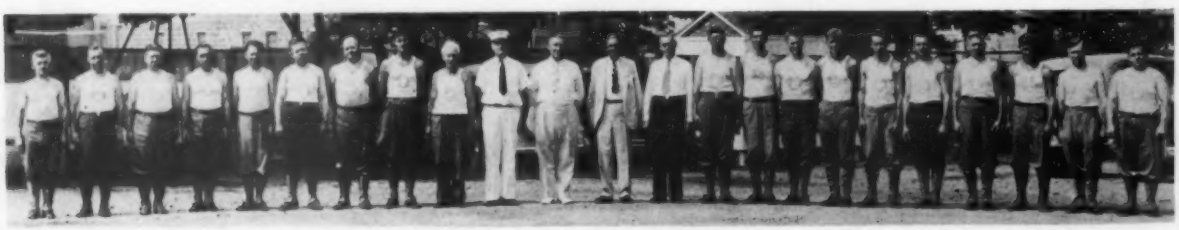
We in Nyack followed that practice mostly, but on one occasion planned to use the short ropes already attached. We discontinued them after we felt they were more hindrance than help, but—

How do you do it!

Ex-Chief A. E. Miller Honored

Deputy Chief Arthur E. Miller, of the Malden, Mass., fire department, who recently retired on pension, was honored with a life membership card and a radio set, given by members of the Massachusetts Fire Prevention Association which he founded and of which he was president for several terms.

HARRY BELKNAP.



Stamford, Conn., Section Has Efficient Drill School

Thirty-six officers and men from the southwestern section of Fairfield County, Conn., on September 10, 1938, will receive certificates from the School of Instruction at Stamford, under the direction of Captain Frank J. Fox, who is a graduate of the New York Fire College, the School of the State of Connecticut, Department of Education, and the Delahanty Institute. The illustration above shows the graduating class of 1937. In the center of the picture, L. to R., are Captain Fox, Fire Commissioners John Murs and M. J. Pitt and Chief Victor H. Veit, Stamford Fire Department.

FREE BADGES

WE will give a BRAXMAR BADGE to any active fire chiefs who send us photos and letters proving they have

WORN BRAXMAR BADGES OVER 40 YEARS . . . .

Many of our customers have worn our badges over 35 years; some have worn them over 40 years. Think of that when someone tries to sell you a cheap badge. You don't buy a badge every day, so be sure to buy the best whenever you need a badge. "Ex-Chief" badges beautifully decorated and finished to order.

THE C. G. BRAXMAR CO., INC.
242 West 55th Street, New York City

BRAXMAR BADGES

Standard for Over Fifty-Eight Years

INDIAN FIRE PUMPS

PLEASE READ WHAT USERS SAY

INDIANA CHIEF SAYS:

Our INDIANS have not only been particularly valuable in thick brush fires, but also in numerous small house fires. We find they do a much cleaner job and are easier to transport than the 2½ gallon soda and acid extinguisher. We are well satisfied with our INDIANS and believe that every Fire Department should have them as part of standard equipment.

G. M. EBERHARDT,
Oakhurst, Ind., Hose Co.

TEXAS CHIEF SAYS:

Jacksonville, Texas.

We have two fire trucks, with INDIAN FIRE PUMPS. The reason I think so much of INDIAN FIRE PUMPS is because they are used to put out about 40% of the fire alarms that come in, such as overheated stoves, kitchen stoves, small blazes confined to one room, and a great number of the small fires that break out around the chimneys of wood and shingled roofs.

Indians are the best yet for grass fires. Every fire department should have them.

Yours truly,
CARLTON ODOM, Fire Chief

These two letters are typical of the high praise given INDIAN FIRE PUMPS by fire departments everywhere. Their value for quickly and completely extinguishing grass, rubbish, spot, roof and building fires has been proven again and again. Chief Odom says 40% of their alarms can be handled with INDIANS. And only clear water is used. Think of the saving in time and money! Return coupon for full details.

MANY USES

Top views at left shows INDIANS being used to put out roof fire. The fact that the INDIAN straps on the back leaving arms free for climbing ladders makes it especially valuable on work of this kind. Below: making short work of grass fire. The powerful stream gets into every nook and cranny.

TRUCK CARRYING RACK

Holds Fire Pumps firmly in place on running board or floor of truck. Unbreakable malleable iron. Coil steel spring on heavy strap eliminates shock on rough roads. Usual fire red in color.

INDIAN FIRE PUMPS

D. B. SMITH & CO., 406 MAIN STREET, UTICA, N. Y.

Pacific Coast Agents:
HERCULES EQUIPMENT & RUBBER CO., 550 Third Street, San Francisco, Calif.
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WESTERN LOGGER'S MACHINERY CO., 302 SW. 4th St., Portland, Ore.

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On Your Toughest Fires . . .

You never know how valuable a Homelite Portable Floodlighting unit is until you actually use one. At night fires, like the one above, when you have trees, slippery fire escapes and even the weather against you, the Homelite is your best friend. It lights up the complete fire ground *brilliantly*—the building from top to bottom; all the hazards can be seen clearly. It makes work safer, speedier. Cuts down your fire losses.

And the best part of this low cost unit, it's always dependable. You can set it up anywhere—even in water, mud or slush up to its "knees"—and it keeps going without any manual attention until your work is finally done.

Weighs only 80 pounds complete. Generates 1,250 watts — enough for several brilliant floodlights.

Any Man Can Carry It
Any Department Can Afford It

A Homelite Portable Floodlighting unit is small and compact—the complete unit, including built-in engine, is carried by one man. You set it up anywhere, eliminating long cables. You carry it on the running board of any truck. It is low in cost. Economical to run. Yet made of the finest materials. Built for long life under tough service conditions.

FREE HELPFUL BULLETIN

This new 8-page bulletin shows how thousands are using Homelite Portable Floodlighting for all types of fires or emergencies. It is crammed with ideas. It will show what low cost floodlighting can do for you. Send for it *now*. It's free.

HOMELITE CORPORATION
809 Riverdale Avenue Port Chester, N. Y.

Approved ★ FOR SAFETY
★ U.S. BUREAU OF MINES APPROVAL NO. 1306

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OXYGEN BREATHING APPARATUS

Here is the answer to insistent demands of fire departments and industry for an oxygen apparatus combining wearing ease of the Lightweight Half-Hour type with respiratory protection for a full hour, even under the most strenuous working conditions. Retaining the important tested feature of the famous Half-Hour unit, the new One-Hour Apparatus provides doubled capacity and perfect balance, with but slight increase in weight. Write for full details—and a demonstration!

MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Streets, Pittsburgh, Pa.
District Representatives in Principal Cities

DEMONSTRATION ON REQUEST

CAMBRIDGE, MASS., AND NEARBY UNITS FIGHT DIFFICULT FIRE IN WAREHOUSE

Old Mill Building in Freight Yard of B. & M. Railroad Center of Three-Alarm Fire—Cause Being Investigated

By Harry Belknap

A FIRE that was spectacular to watch and difficult to fight swept through an old brick mill constructed building in the Boston & Maine Railway freight yard in East Cambridge, Mass., on an evening recently.

The building, which was formerly used as a sugar refinery, was in several sections ranging in height from two to seven stories. It was built of brick with heavy joist timbers and was occupied by several tenants in various lines of business, as follows:

Basement—Chemical warehouse, smelting plant, naval stores.
First Floor—Local freight depot, storage of furniture pads.
Second Floor—Paper stock. Construction Co. (Acoustics).
Third Floor—Waste paper in bales, furniture, chemicals.
Fourth Floor—Paper shredding, toilet paper manufacturing.
Fifth to Seventh Floors—Storage of waste metals, etc.

Employees Try to Fight Fire

Fire was discovered in the second floor of ell, occupied by W. J. Roberts Company, manufacturers of building material, by employees of Boston & Maine Company, who were loading freight on the first floor. They tried to fight fire with pails of water and pump cans, then telephoned a still alarm about 10:28 p.m. A Boston & Maine police officer also discovered fire in the second floor of ell, while patrolling the freight yard and sent in an alarm from a street box. Both still and box alarms were received at practically the same time, 10:28 p.m.

First alarm response was three engine companies, one aerial ladder, and one rescue company, which immediately attacked the fire in second story of ell. Members of rescue company and ladder company, while ventilating main building, discovered fire on the fourth floor in shredded paper. Fire was also on third floor in baled waste paper which fell through trap door from above.

Second alarm was sent at 10:50 p.m.; third alarm immediately sent in by Chief on his arrival after second alarm.

Second alarm response was four engines, one truck, and the third alarm, two engines and one truck. A special call brought two engines.

Cambridge had seven American-LaFrance 750-gallon pumpers, one Seagrave 750 and one 1,100 pump. Somerville had one Seagrave and one Ahrens-Fox pump at the fire, one Seagrave pump covering in. Arlington had one 1,000-gallon Seagrave pump at the fire and one Seagrave pump covering in. Belmont and Boston each had one American-LaFrance pumper covering in. There were two American-LaFrance aerials and one Pirsch aerial at fire.

Fire burned out the second floor of ell, and part of third, fourth, and fifth floors of main building, also part of third and fourth floors of wing. Opinion of fire officials and Boston & Maine engineers is that two distinct fires were in evidence at the same time, neither one having any connection with the other. The cause of the fire is undetermined and is under investigation.

Number of streams—two Morse ladder pipes, two Morse deck guns, two Eastman deluge sets, ten hand lines. Two of the first lines laid were cut in two by the freight trucks and delayed operations. All lines except those of first company to arrive had to be dragged by hand across railroad tracks as a high wooden fence across Water Street separated the Boston & Maine yard from Bridge Street. Total area of building was 102,000 square feet; area burned, approximately 24,000 square feet. Approximately 15,000 feet of hose was laid at fire.

Eight hydrants, served by a 12-inch main, were used. Water pressure was 65 pounds.

This data was furnished by Chief Herman L. Gutheim, of the Cambridge Fire Department, who was in charge of the fire-fighting forces.

Firemen were endangered by crumbling sections of the old brick walls and took considerable punishment from smoke and heat. A moderate westerly wind prevailed at the time of the fire. A large crowd was attracted to the scene.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of August, 1938. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending August 31	Loss in Thousands of Dollars
Penetanguishene, Ont.—Yards of McGibbon Lumber Co., on Penetang Bay	65
Omak, Wash.—Property of St. Mary's Jesuit Mission, 4 miles west	50
Oakland, Cal.—Yards of Southern Pacific R. R., damaged	80
Lockport, N. Y.—Two whses. filled with cotton owned by Lockport Cotton Batting Co.	165
Dublin, Ind.—Oil storage tank of Gulf Refining Co., 1 mile west	125
Thomson, Ga.—Thomson high school building destroyed	80
Vancouver, B. C.—Manufacturing bldg. at 1128 Homer St. destroyed	165
Hayward, Cal.—Property on David Hall estate	50
Portland, Ore.—Plant of Pacific Cooperate Co., adj. property	50
Quebec, Que.—Anglo-Canadian Pulp & Paper Mill damaged	50
Klamath Falls, Ore.—Plant of Miller Meat Packing Co., destroyed	80
Wellsville, Sask.—Wellsville refinery destroyed	800
Barton, Vt.—Business and residental property	190

Seventeen Firemen Overcome by Smoke at Lansing Fire

Seventeen members of the Fire Department at Lansing, Mich., were overcome by smoke while fighting a blaze in the Montgomery Ward department store. Inhalators were used on the victims as they were stretched out on the sidewalk.

Los Angeles, Cal.—Factory of Western Candy Paper Box Co. 50
Newton, N. C.—Property of Hewitt Motor Co., damaged 50
Lincoln, Neb.—Coal and lumber yard of F. H. Most Lumber Co., damaged 80
San Bernardino, Cal.—Peoples Furniture Store damaged 125
Williamsport, Pa.—J. C. Penny store damaged 100
Newman, Ill.—Plant of Crites Canning Co., destroyed 80
Redkey, Ind.—Louis McVey grain elevator, loss on building 50
Greenport, N. Y.—Business property at Main and Front Sts. 50
Paulsboro, N. J.—Socony-Vacuum Co. wax plant destroyed 400
Russellville, Ala.—Business property 50
Hardin, Mo.—Post office and adjoining business property 80
Odessa, Wash.—Main elevator of Odessa Union Warehouse Co. 75
Greenwood, Miss.—National Guard Armory and adjoining property 50
Laconia, N. H.—Unitarian Church damaged 50
Bethlehem, Pa.—Parish House of Church of Nativity, destroyed 50
Polar, Wis.—Lumber mill yard of George Klements 50
Providence, R. I.—Steere Mill, damaged ... 65
Henderson, Ky.—Granary of Henderson Elevator Co., destroyed 80
Philadelphia, Pa.—Adair Lumber Yards destroyed 50
Mission, B. C.—Mill of Stave Lake Cedar Co., destroyed 80
Viroqua, Wis.—Property of Taylor Lumber Co. 50
Chamberlain, S. Dak.—J. C. Penny store and adjoining property 125
Blountville, Ala.—State Secondary Agricultural school 50

SHOULD THE CHIEF BE CONSULTED ON THE PURCHASE OF HYDRANTS

According to Survey, 105 Say "Yes" and Four, "No"—One-Half of Those Reporting Already Have a Voice in Purchasing Hydrants

THROUGH the generous cooperation of 179 Chiefs, who answered a questionnaire relative to the practices in purchasing fire hydrants in their respective cities, the following information is made available to the readers of this journal.

The 179 Fire Chiefs reporting represented cities of all sizes, having a total population of 10,958,500. In service in these cities are 190,052 hydrants, an average of 17.34 hydrants per thousand population.

The number of different makes of hydrants used in these cities totals thirty-eight, some of which are no longer in production.

Who Purchases the Hydrants

Figures submitted show that purchase of fire hydrants in 176 cities (three not reporting who purchased hydrants), is delegated to a wide variety of officials. In twenty of the cities, the private water company purchases the hydrants. Where the plant is municipally owned, purchase is made by the following agencies and individuals, the figure indicating the number of cities in which hydrants are purchased by the department or individual indicated: Water Superintendent, 54; Water Commissioner or Water Commission, 15; Purchasing Agent, 14; City Manager, 13; Fire Chief, 11; City Engineer, 9; Commissioner of Public Works, 5; Director of Public Works, 4; Water Department, 4; Water Board, 3; City Council, 5; Safety Director, 3; Public Service Department, 2; Board of Public Safety, 2; Commissioner of Public Property, 2; Supply Commission, 2; Board of Fire Commissioners, 2; Board of Burgesses, 1; City Commissioner, 1; Commissioner of Streets, 1; Water District, 1; Board of Control, 1; Street Department, 1.

Of the 176 answering the question as to what voice the Fire Chief had in the purchase of fire hydrants, 88 responded that his advice was asked when new hydrants were to be purchased; 88 answered that their advice was not requested, nor had they any participation in the purchase of hydrants.

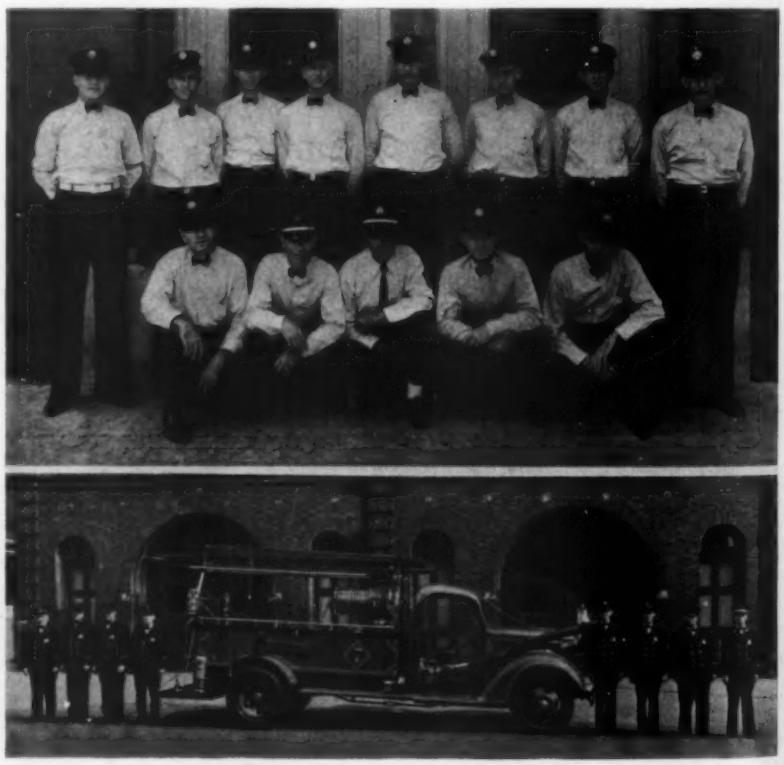
As to whether or not the Fire Chief should be consulted before the purchase of hydrants is made, 165 expressed the opinion that the Chief should be called in, while four felt that the work would be ably done by the Water Department or other agencies, and therefore their advice was not needed.

From the foregoing, it will be noticed that at the present time the Fire Chief in a few of the cities actually buys the hydrants. In one-half of the cities reporting, his advice is asked, prior to purchase of hydrants, while in the other half of cases where hydrants are to be purchased, his opinion is not asked, nor is his experience with hydrants sought, prior to selection of the hydrant by other city departments or city officials.

Apparatus and Crew of Holders of State Record

The motor hose wagon team of Charleston, S. C., is the holder of the state record of 8.8 seconds made during the thirty-third annual convention of the South Carolina State Firemen's Association held at Charleston. The previous record of nine seconds was held by Florence, S. C.

The team consists of ten men. The engine starts about 1,000 feet from a hydrant at a speed of twenty-five miles an hour. The engine breaks a timing cord one hundred feet from the hydrant. The rules state that no less than ninety-eight feet of 2-inch hose must be laid, with the female coupling connected to the hydrant, the butt at the other end broken, and nozzle connected, and water flowing through the nozzle. The time is taken from the moment the cord is broken to the time the water emerges.



Hose Team and Apparatus Entered in Contest

Upper, men in back row from left to right are K. E. Hauck, F. P. Leddy, J. E. Massalon, E. C. Bendt, W. Pessier, J. A. Hoppmann, B. F. Passailaigue, Engineer, and F. W. Kuhland. Front row, G. J. Burns, Lieut. C. L. Cuzzell, Battalion Chief H. L. Taylor, M. R. Milligan and C. E. Crawford. Lower photograph, view of the apparatus, assembled by the local department.

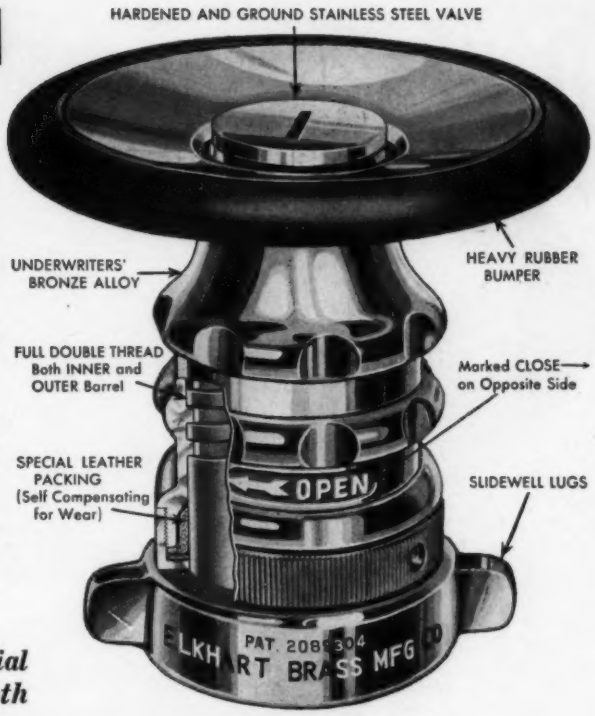
LOS ANGELES ORDERS 25 MORE ELKHART MYSTERY NOZZLES

FOG • SOLID STREAM • SHUT-OFF

all in one nozzle

Such recognition by the Los Angeles Fire Department, regarded as one of the most efficient and progressive fire-fighting organizations in the country, tells its own story.

The advantages offered by MYSTERY nozzles in fighting ALL kinds of fires are manifold. The MYSTERY is truly an all-purpose nozzle—amazingly effective in extinguishing oil and other flammable liquid fires, the last word in controlling attic or basement fires. Then, when needed, there is the solid stream by simply revolving the discharge barrel. Send for descriptive literature and prices.


HARDENED AND GROUND STAINLESS STEEL VALVE
UNDERWRITERS' BRONZE ALLOY
HEAVY RUBBER BUMPER
FULL DOUBLE THREAD Both INNER and OUTER Barrel
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No small holes to clog.
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We extend to you a cordial invitation to visit our booth at the I.A.F.C. Convention in New Orleans.

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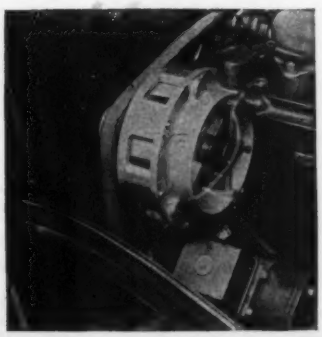
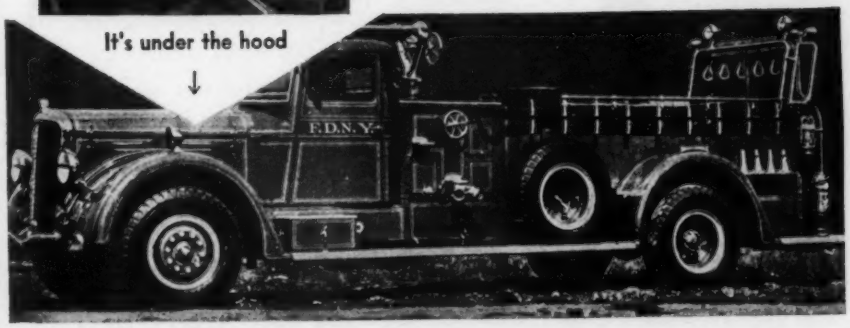


NEW YORK CITY FIRE DEPARTMENT *Selects* H.O.R. MECHANICAL SIRENS



***They* MUST *be* BETTER**

Over 900 used daily in New York City Fire and Police Departments. Photo shows one of the 34 new pieces of Ward - La France apparatus being delivered to New York City—all of which are equipped with H.O.R. Mechanical Sirens. These sirens are rigidly mounted on the motor block and directly connected to the fan belt.

They are **LOUDER**
More **ECONOMICAL**
More **DEPENDABLE**

THIS selection by New York is evidence of the dependability of H.O.R. Mechanical Sirens . . . they must be BETTER to meet the exacting specifications of this world-famed fire department. Why don't you modernize with H.O.R. Mechanical Sirens?

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IT OSCILLATES

Mounting brackets are furnished for either body top or fender. Write for special bulletin.

OSCILITE

is a ruggedly made, oversize warning light in one solid, self-contained unit. All operating mechanism is completely enclosed in the handsome streamlined body of the lamp. The beam of light is constant in its swinging back and forth. Heavily chromium plated, it cannot tarnish or rust. Every chief's car and fire apparatus needs an OSCILITE — it sure clears the way. Specify STERLING OSCILITES on new equipment.

NO OTHER LIGHT EVER HAD THESE FEATURES

Special gear reduction motor with gears and motor one integral mechanism.

Oilless bushings — never need oiling. Simple mounting for body top or fender.

No outside wiring.

THE STERLING SIREN FIRE ALARM CO., Rochester, N.Y.

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—as comfortable as your old felt hat

(Patented)
THE NEW YORKER—
CAIRNS' LATEST LOW TYPE CUSHION-LINED HELMET

Made by the oldest and best-known helmet house in America . . . the product of pioneers who began business over 100 years ago.

These helmets meet the most exacting requirements calling for correct design, best materials and craftsmanship. Now the standard in over 6,000 fire departments in the United States, Canada and other countries. Send for folders.

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AGENTS EVERYWHERE

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FINANCING THE FIRE DEPARTMENT

FIRE prevention and fire protection are purchasable commodities. Being so, it can be said that the funds or money available bear a direct relation to the results obtained.

Money is needed to purchase fire apparatus. Some way must be established for making such orders possible.

Money is required for the maintenance of the department. Supplies must be purchased, and men must be paid for services rendered. While there is no branch of public service that is founded on free service as much as that of the Fire Department, free service is not dependable, and men must be employed who will be subject to stated hours of employment.

Money must be made available to the department by the city treasury. Fire service is a governmental function, and being so, must be financed much in the same manner as police protection, or the other services provided by the city for the community.

Just how all this is done makes an interesting subject, and is discussed in this round table. The problem in full appears in the box on this page. In the box on the following page is the question that will be treated in the next issue.

Discussion of the Question

H. N. Ladue, Chief, Dunsmuir, Cal.: Purchase of fire apparatus in this city is financed by a bond issue. Funds for maintaining the department are set aside from tax money collected in the general fund of city and transferred to the fire fund according to our budget requirements. The city pays all expenses of running the department and salaries of the firemen. Our present organization was established in 1920.

W. J. Duke, Chief, Eustis, Fla.: Purchase of fire apparatus and maintenance of the Fire Department is accomplished through taxation. Our department has been in existence since 1893.

Floyd E. McGlauflin, Chief, Presque Isle, Me.: Money for the purchase of fire apparatus is raised by taxation. This amount is sometimes extended over a three-year period.

All funds for the maintenance of the Fire Department are voted by the town at the annual town meeting and raised by taxation.

Our department has been in existence for over forty years. The original records have been lost, but the present ones go back to 1901. Our first motorized pumper was purchased in 1917, the second in 1924. In 1929 the department was completely motorized by the purchase of a city service ladder truck.

A. A. Hansen, Chief, Westwego, La.: One piece of apparatus was bought outright by the town and another donated by a citizen of the town. The department is maintained by assessing the members twenty-five cents per month and by holding public entertainments under the auspices of the Fire Department. The town pays the salaries of the two drivers, and pays for the repairs and upkeep of the apparatus. It buys hose when needed. Our department was founded in 1921.

Thomas Coates, Chief, Tillamook, Ore.: Our city pays two full time drivers and also pays volunteers for fires and drills. Purchase of apparatus and upkeep of the department is financed by general taxation.

In 1893, the city was incorporated, but no provision was made for a Fire Department, so that our department is still an independent organization in the nature of a service club, with its sole object the preservation of life and property from fire. We elect our own officers and maintain the organization by an annual dance and occasional donations from out of town recipients of our services. Until a few years ago, we bought part of our equipment. Before the purchase of a pumper in 1920, we had a membership of about sixty-five, but upon discarding the hand drawn apparatus we reduced the membership to twenty, and in consideration of the city's providing state compensation, we have an agreement to keep the membership at that figure. The volunteers bought the first motor machine and maintained it for two years without any assistance from the city at large, before the purchase of the pumper in 1920.

We elect our own members and have long since adopted the policy of taking in only young, unmarried men, who can sleep at the fire station. At present we have eight volunteers who sleep and take some of their meals there. The city furnishes bedding and so forth, and pays all the volunteers $1.50 for attendance at fires, with additional pay in case they are out for more than an hour, and fifty cents for each drill. We drill every Wednesday evening except in the week in which the second Thursday occurs, which is the time of our business meeting. We have an average attendance of eighteen at meetings and drills.

Our relations with the city administration are very cordial, and liberal appropriations are made in the annual budget. The appropriation for funds for the Chief to attend conventions and fire schools has become almost a stereotyped item in the budget, and sometimes funds are provided out of the emergency fund for some of the other members.

Lee Johnson, Chief, Sanger, Cal.: Our Fire Department, which has been organized for 25 years, is supported entirely by the municipality. All equipment, etc., is bought and maintained by the municipality.

However, the firemen bought and operate a resuscitator by obtaining donations from the citizens of the city. This was accomplished by asking for aid through the local newspaper, and by personal contact.

Floyd A. McCorkle, Chief, Tuscumbla, Ala.: Our Fire Department, which is a volunteer one, was established in 1900. All financial help comes from the city treasury, purchase of fire apparatus being accomplished through the General Fund of the city, and maintenance costs by licenses and taxes.

W. H. Porter, Chief, Harrison, Ark.: Purchase of fire apparatus is financed by the Municipal Water Company, and the funds for maintaining the department are raised by a city tax. The Municipal Water Company buys all hose and finances repairs. Our department is 21 years old.

J. B. Spence, Manchester, Ga.: Our city purchases fire apparatus and

HERE IS THE PROBLEM

1. How was the purchase of fire apparatus financed by your department?

2. How are funds raised for maintaining the department?

3. Do you receive any financial help from your municipality?

4. If so, in what way?

5. How long has your fire department been in existence?

offers financial aid by maintaining the department and paying the salaries of its members. Our department has been organized for one year and four months and has run dances, boxing matches, etc., to finance the buying of badges.

J. C. McEachern, Chief, Haynesville, La.: The city of Haynesville finances the purchase of fire apparatus and also allots to the department a certain millage on assessments, which is used for maintaining the department. Our department has been in existence for fifteen years.

D. L. Arnst, Chief, Mill Valley, Cal.: New apparatus was financed by a local bank and a city note taken for deferred payments, which has resulted in a saving of five per cent to our city. The department is financed entirely by our municipality. Funds are raised by taxation at the rate of $1.25 per hundred dollar valuation within the corporate limits. The city pays for salaries and equipment.

The Fire Department was reorganized in 1929 from a volunteer department to a paid personnel, as a result of a conflagration at that time.

G. J. Mistretta, Chief, Donaldsonville, La.: Our Fire Department has been in existence about fifty-seven years.

Our modern 500-gallon pumper was purchased in 1930. The same year we built a beautiful brick central fire station. The fund to purchase these was the result of a signed petition representing two-thirds of the property owners, providing for a mill tax to be assessed against the property owners. This tax brings in about $2,000 a year. All our equipment and buildings are paid for.

C. M. Lawson, Chief, Mountain View, Cal.: The city purchases our equipment from the general fund. The department is operated on the budget plan, the funds being raised through general taxes.

Our city allows the department one dollar per man for each fire call. This money is under the control of the Fire Department. No fireman receives any pay. In addition, the city allows the department $12.50 per month. This last amount is used for taking care of any clothes damaged at fires or replacement of anything lost by any fireman while fighting fires.

The Mountain View Fire Department was organized in June, 1905.

Paul Z. Knier, Chief, Manheim, Pa.: The purchase of fire apparatus is financed by suppers, public subscriptions and donations from the Borough Council. We finance maintenance costs by membership dues and festivals and donations from the public, Our municipality pays running expenses of the fire apparatus and purchases most of the equipment and supplies used. Our department was established in 1812.

Charles I. Goff, Chief, Preston, Idaho: Our city pays for new apparatus and for maintaining the department. We are paid for service and also receive the necessary funds for quarters, etc. We have been fully organized for eighteen years.

C. E. Miller, Chief, Margate City, N. J.: The purchase of fire apparatus is financed by a bond issue. Maintenance funds are part of the budget of the Department of Public Safety. We are a paid department, with eight members, working on two shifts. They receive a salary of $1,800 a year.

The department was established as a volunteer one in 1907 and became a paid department in 1924.

John J. Brennan, Chief, Pelham Manor, N. Y.: Purchase of fire apparatus is financed by a bond issue. This, in my opinion, is the most satisfactory way to purchase apparatus. It is always under the control and supervision of the governing bodies, and is paid for by all persons receiving such protection. Maintenance costs are financed by taxation. All equipment, supplies, etc., are purchased out of the annual budget of the department. The Chief, 1st Assistant Chief, and drivers of apparatus, are fully paid. All volunteer members of this department have furnished to them gratis, all uniforms, rubber coats, boots, helmets and turnout pants. This is quite proper, as members of any volunteer department should not be required to pay even in part for any personal equipment that may be necessary in the line of duty.

Our department was organized as a volunteer department in 1890 and reorganized as part paid and volunteer in March, 1928.

Justin Shearn, Chief, Middlesex, N. J.: The present Fire Department is the result of the normal growth of the borough. While it was part of Piscataway Township, hose companies were organized in the three populated sections for the protection of that neighborhood. Later when the borough was created, these companies continued, each with its own Chief, etc., but they responded to alarms in the borough at large. This was about forty years ago. The entire expense was met by public donation and from profits from various public functions. About fifteen years ago, another company was organized in what was then the latest section of the borough to develop. In a few years, the companies set up their own rules and operated as a department electing one Chief from the entire membership. The next development was the donation by the borough of hose for the department's use. Along about 1927, the companies purchased modern motorized apparatus, and as the result of an accident and the inability of the companies to raise sufficient funds to pay their notes, they donated their equity in them to the borough. The borough by ordinance purchased the apparatus, created a fine department, and since then, has maintained all the equipment. At the present time, one of the trucks is being remodeled to be used as a salvage and utility truck.

B. Horace Ford, Chief, Crisfield, Md.: All of our apparatus, hose, and running expenses are paid by our city. Our county levies $400 to us each year and we raise $800 to $1,500 each year from donations given by the business houses of our city. We do not receive any financial support from our municipality.

Our company has been in existence about 60 years.

G. R. Robinson, Chief, Yuma, Ariz.: Our Fire Department was organized in the year 1898, and was full volunteer until 1918. At that time we bought a 750-gallon pumper and hired one man to drive it. We now have two 750-gallon pumpers and one chemical truck, with six paid men.

All our apparatus and equipment was purchased by the city from city taxes.

Louis H. Simonsen, Chief, Broken Bow, Neb.: In June, 1936, the department went before the City Council and asked for a new fire truck. They were informed that the fire fund was dry. In August, 1936, the Council added an additional mill levy to the fire fund. In June, 1937, we had cash enough to purchase a chassis. We issued and sold $3,000 worth of warrants payable $100 a month, and in October, 1937, we had a new 1½-ton International truck, with 500-gallon pump booster tank and all new equipment to go with it.

There are about 48 fire insurance companies doing business in Broken Bow. We receive $5 per year from each of these companies, to be used for trips to state conventions or any other purpose we wish to spend it for.

Our company was organized in 1890. Our oldest member joined the company in 1900.

We get perfect cooperation from the City Council. At the present time we have two firemen on the Council, one as City Treasurer and one as City Attorney. We have been very fortunate in keeping the fire company represented in our city government.

W. D. Richards, Chief, Sierra Madre, Cal.: A loan for $2,500 for the purchase of fire apparatus was first made by some interested citizens. Then a bond issue was floated to cover the full amount of the first piece of apparatus, and in later years, several activities were started by the firemen, the proceeds of which were used in the construction of a ladder truck and first aid truck.

A budget is allowed by the city yearly for maintenance of the department. Our department was organized in 1920.

J. A. Falkner, Chief, South Euclid, Ohio: The purchase of fire apparatus is financed by the issue of bonds. Funds are raised for maintaining the Fire Department by general taxation.

The Fire Department was organized in 1922 as a volunteer department. In July, 1924, the Chief was appointed on a salary basis. At the present time, the department consists of a Chief, 1st Assistant Chief, two part-time regular men, all on a monthly salary, and fourteen emergency men, who are paid $2 a call for building fires and $1 a call for all other calls. The

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Under what conditions should Fire Departments respond to calls from homes or business places where gases are reported leaking from electric refrigerating systems?

How do Fire Departments take care of this emergency when they arrive? In other words, what do they do?

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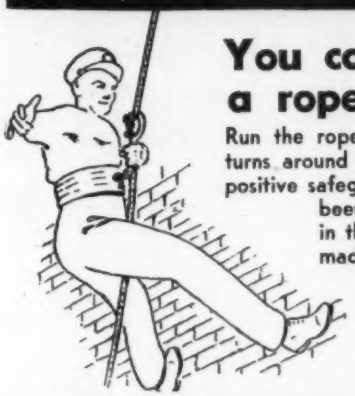

You can't get a wrong turn of a rope on a Morrissey hook—

Run the rope thrcugh the brake first, then make a couple of turns around the hook and you're ready with one of the most positive safeguards known in fire fighting. The MORRISSEY has been standard in fire departments nearly everywhere in this and other countries for years and now we have made it better, stronger, safer than ever.

DEALERS — The Morrissey Life Belt is famous. Capitalize on its reputation and popularity.

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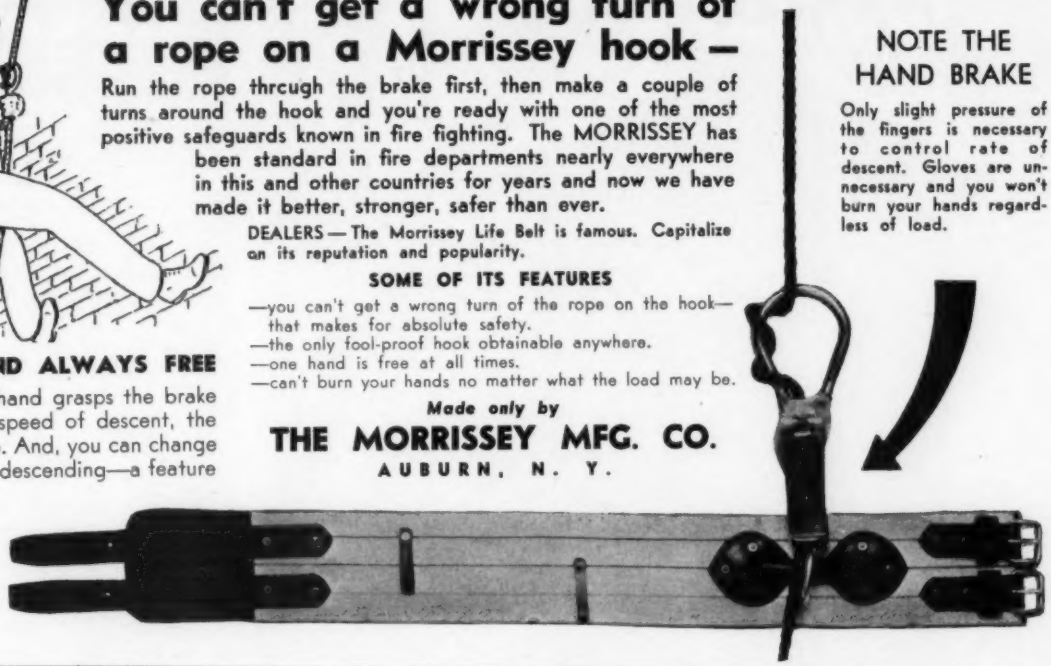
—you can't get a wrong turn of the rope on the hook—that makes for absolute safety.
—the only fool-proof hook obtainable anywhere.
—one hand is free at all times.
—can't burn your hands no matter what the load may be.

ONE HAND ALWAYS FREE

While one hand grasps the brake controlling speed of descent, the other is free. And, you can change hands while descending—a feature of great value in rescue work.

NOTE THE HAND BRAKE

Only slight pressure of the fingers is necessary to control rate of descent. Gloves are unnecessary and you won't burn your hands regardless of load.



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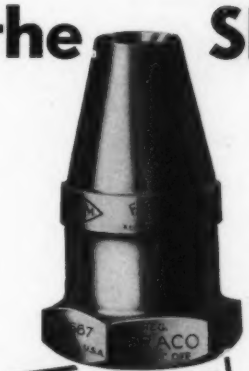

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It produces a finely divided spray, combines a blanketing and rapid cooling effect in extinguishing the flames. This blanketing effect also protects firemen from radiant heat, reduces hazards of work in close quarters and is effective on grass and brush fires in connection with booster lines.

Requiring no expensive chemicals or cumbersome accessories, this nozzle is as dependable as your water supply. It costs far less than the best nozzles obtainable up to this time. Couples directly to hose line or standard play pipes.

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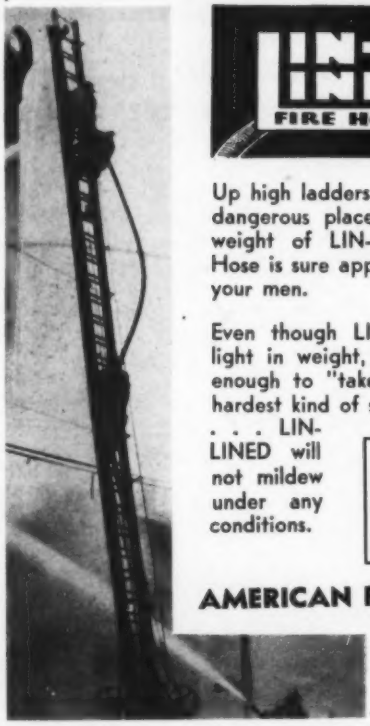

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department owns two pieces of apparatus.

C. H. Trasher, Chief, Tuskegee, Ala.: The purchase of fire apparatus and the maintenance of the department is financed from general city funds.

Tuskegee has a volunteer Fire Department, consisting of twenty men. The only salary these men get is in the form of exemption from the street tax.

I have been Chief of the Fire Department and Chief of Police for eighteen years. For the first eight years of my service, we used two reels, with 500 feet of hose and nozzles on each reel. These reels were pulled by hand or tied on the back of a car or truck and brought to the fire. In 1928, the city purchased a fire truck, an American-LaFrance 500-gallon pumper, equipped with a 40-gallon chemical tank, 1,000 feet of 2½-inch hose, two nozzles, one 2½-gallon soda and acid chemical extinguisher, one 2½-gallon foamite extinguisher, one 5-gallon Indian hand water pump, one 12-foot roof ladder, one 12-foot extension ladder, one 35-foot extension ladder and 20 feet of suction hose. We have a coded Federal siren alarm. We have a new water supply coming from a creek, a filtration plant, and a large reservoir.

Our fire loss each year is very small.

Thomas S. Ward, Chief, Red Bluff, Cal.: In Red Bluff, the purchase of fire apparatus is financed by direct taxation or by a bond issue. These bonds are purchased by the Water Department of the city. Funds are raised for maintaining the department by monies budgeted from the general fund of the city, but for the most part by dances, carnivals, etc. Definite sums are set up in the yearly budget for maintenance. In addition, the city pays the volunteer firemen a small sum per month for perfect attendance at fires, drills and schools.

Our department has been in existence for 62 years.

Joseph Senger, Chief, San Bruno, Cal.: The city of San Bruno pays and maintains for all expenses of the Fire Department, including all insurance carried on the members.

The city has a commission form of government. The Fire Department is controlled by three Commissioners, who recommend to the City Council to buy apparatus or supplies. The Fire Department has been in existence since September, 1909.

Howard L. Humes, Chief, Balston Spa, N. Y.: The purchase of fire apparatus is financed by village taxes and the maintenance of the department by taxes and the annual budget. We have two companies. Eagle Matt Lee Fire Company is a combination pumper and ladder company with one pumper, one ladder truck, and a squad truck. It was organized in 1816, and has had continuous service. It has been through the leather hose and hand pumper days. The other company, the Union Fire Company, has one pumper and a squad truck, and was organized in 1855.

We are also equipped with inhalator service, and first aid crew, and do salvage work.

Charles E. Everett, Chief, Lompoc, Cal.: The city of Lompoc pays for our fire apparatus and maintains the department by taxes.

The Fire Department, which was organized in 1914, operates under the Fire Commission and ordinance regulations. The firemen receive $1.50 per call for the first hour and $1 per hour thereafter. We operate an ambulance. We have eleven members including officers. These members are all trained in first aid and inhalator service.

N. Ewart Day, Chief, Winslow, Ariz.: The City Council purchased our apparatus by including its cost in the municipal budget. The department raises money by holding an annual Firemen's Ball, sponsoring stage attractions at the local motion picture theatre and managing concessions at celebrations and gatherings in the community.

The city budget includes such items as salaries for engineers, hosemen and Chief; rental of fire hydrants, equipment, gasoline and oil, and telephones. All other expenditures such as uniforms, expenses of delegates to conventions, social activities, and donations to charities, are paid from department funds. Winslow will be host to the Arizona State Firemen's Association in 1939, and all costs will be met from the department treasury.

Our first records show an organized city Fire Department in 1903. Prior to that time, all calls were answered by the department maintained by the Atchison, Topeka & Sante Fe Railway Company for the protection of its property here.

Walter M. Johnson, Chief, Oceanside, Cal.: Our fire apparatus was purchased by the city, the first piece in 1925 and the second in 1933. Funds are raised by general tax. The city maintains the apparatus and pays the members $325 per month for salaries for the Chief and fifteen men. This is a volunteer department.

The present department was organized in 1925.

W. R. Shaber, Chief, Sparks, Nev.: All of our fire apparatus has been purchased by the city. A budget of Fire Department expenses is submitted to the City Council each year, all other departments doing the same. A tax rate is established based upon a total assessed property valuation added to all other income received. This provides the necessary funds, which are deposited into a general fund of the city. Each department is charged according to their budget.

Our city is comparatively a young city, having been established here in July, 1904, when the Southern Pacific Roadroad Company moved their division terminal and repair shops from a small town thirty miles east. During the summer of 1904, a water system was installed, and in September, 1904, we organized a volunteer Fire Department.

Charles Sweeney, Chief, Antioch, Cal.: At the beginning of each fiscal year, I draw up a budget of salaries, allowance for gas and oil, repairs, new equipment, expenses and compensation insurance. These items are met by taxation.

In the matter of new equipment, the Fire Commissioners and myself talk over this problem and endeavor to arrange a plan whereby gradual improvement and necessary manpower can be secured without causing too large an increase in any stated year. It is usually figured on a five-year plan, which makes any saving in a given year available at the time when the necessary expenditure can be made without adding to the tax rate.

We are able, under the state law, to sell service to adjacent areas which are unprotected, and the monies derived from this source are kept in a separate fund and are available to the department for any use in carrying out their obligations as to service and equipment for city or protected areas both. The protected areas are really part of the city and are gradually being annexed.

The Fire Department was first organized as a volunteer department in 1874 and has undergone the usual reorganization. The present department has been organized along modern lines.

The Council is sold on police and fire protection, with the result that we have their cooperation in regard to our financial requests.

Ed. M. Gates, Chief, Newton Falls, Ohio: Our last piece of fire apparatus was purchased by a bond issue. Equipment for the department is bought by the Council, on recommendation of the Fire Committee, who are members of the Council.

The men are paid $1 per hour for the time they are out on call, by the village out of the Safety Fund. We receive no other financial help from the village and pay our own blanket insurance from funds raised by card parties or dances.

Our department was organized about 40 years ago. In 1921 the village bought a 1½-ton Reo chemical and hose truck, to which the firemen donated $1,200. The Council held up payment on this truck and a siren for five years. As far as I am concerned, the department is making no more donations to buy equipment. The village also receives $300 per year from the township for protection, and we cover twenty square miles under this set up.

I have been Chief of this department for fourteen years and have only found one administration which was vitally interested in the department. Other than that, it has been a monthly fight for hose and equipment. We are 1,000 feet short now.

Estil Giles, Chief, Harlan, Ky.: Our

New England Chiefs Meet in Providence in 1939

The 1939 Convention of the New England Association of Fire Chiefs will be held in Providence, R. I., on June 20, 21 and 22, according to an announcement just made by Chief John W. O'Hearn of Watertown, Mass., Secretary of the association. This will make the second Rhode Island convention of the organization, a previous meeting having been held in Newport.

Fire Department was organized in 1916. In 1934 the city of Harlan had two old worn out Reo fire trucks, which were 1920 models. We asked the Council for new equipment and in December, 1934, they purchased an Ahrens-Fox 750-gallon pumper with extra hose, first aid equipment, gas masks and other equipment needed to make a good Fire Department. We continued to ask the City Council for additional equipment each year and got it.

In 1937, we sponsored a carnival show in the city and made $500. As our county is composed mostly of mining camps, I went to each coal company and asked for contributions from them for a new pumper and additional equipment. They responded to the sum of $2,000. The city supplied the additional funds needed and we purchased a new pumper on a Diamond T chassis in September.

We often sponsor shows, raising money for equipment.

Drill Tower and Fire Station Constructed at Des Moines

A new fire station and drill tower was erected at Des Moines, Ia., as a PWA project. The total cost was $194,000. This station houses two 1,250-gallon pumpers, a service ladder wagon, an 85-foot steel aerial ladder, a rescue squad car, and the cars of the Chief and the Assistant Chief. A repair shop was built detached and can be seen in the picture of the drill tower.

The city of Harlan maintains the Fire Department and pays the salaries and purchases everything we need. We are now contemplating purchasing inhalators for our department.

Frank Gloor, Chief, Totowa, N. J.: Our apparatus purchased in 1930 was financed by six notes; $2,000 is provided in our budget to pay these notes each year. Our 1937 apparatus was financed by providing $3,000 in our tax budget for that year.

The department itself raises no funds for maintenance. Of course, each individual company raises funds for social purposes by card parties, fairs, bingo parties, etc.

Our municipality purchases all our apparatus and equipment and maintains the same.

Our department consists of three companies, one of which is housed in Borough Hall. The other two companies receive $400 and $200, respectively, each year for maintenance and heat of company quarters.

Our department was organized in 1908.

G. E. Dixon, Chief, Prichard, Ala.: Our American-LaFrance truck purchased in 1927, at a cost of $6,500, was financed by annual notes which were paid out of the licenses levied in the police jurisdiction for police and fire protection.

We have a volunteer department, which has a very good record of efficiency.

James M. Gage, Chief, Montrose, Col.: Our American-LaFrance hose and chemical truck was purchased by the city in 1923, when the horses were retired. The horses were owned and driven by our past Chief. The cost of the wagon was financed by the city and the volunteer Fire Department both.

As our department is part paid and volunteer, we have a general fund, the money for which is raised each year from our annual ball held on March 17 of each year. We clear about $300. It is my job to canvas the business houses in our ticket sale. This money pays for the upkeep of the club room, association dues, uniforms, cost of sending two men each year to state conventions, and for other expenses of the department.

The city pays salaries for two full-time firemen and two part-time men. The part-time men work as relief men. The city maintains the building and fire apparatus and all equipment. The department now has four paid men and thirteen volunteers. All firemen receive their water rent free from the city. This is all the pay the volunteer men receive. The city insures each man with a $2,000 accident policy. The city also pays $25 per month into our pension fund.

The Fire Department has been in existence since 1888. The early organization was a bucket brigade and used hose carts. On November 21, 1907, horse-drawn apparatus was initiated and finally in 1923, motor apparatus.

Rene J. Bernard, Chief, Thibodaux, La.: Our apparatus is purchased by the city and the maintenance costs paid through the medium of fairs and municipal appropriations. Our department has been organized for eighty years.

H. A. Stanton, Chief, Storm Lake, Iowa: Purchase of fire apparatus and maintenance of the department is financed by a mill levy levied by the municipality. Our department has been in existence for fifty-eight years.

* * *

Answers to Previous Questions

The following replies are in answer to a previous question regarding timed fire drills:

Frank Dews, Chief, Chickasha, Okla.: I am not in favor of conducting drills against time. I do not think that evolutions should be conducted against time in training schools, as it develops nerves and causes accidents.

John O. Nygren, Chief, Joliet, Ill.: I believe that drills conducted against time are beneficial to the efficiency of the Fire Department, but I do not think it necessary to conduct evolutions at the training school in a similar way, as there is the unnecessary danger of injury to the men.

James C. Sullivan, Chief, Lowell, Mass.: I am in favor of drills being conducted against time in the work of the Fire Department and also in the fire school, as it teaches the men not to lose any time. This is so important in the fire service.

Michael J. Corrigan, Fire Commissioner, Chicago, Ill.: Candidates in training should never be drilled or trained against time, for then it ceases to be proper instruction and is detrimental to their progress. Active companies brought to the school for purposes of review and instruction may drill against time in hose evolutions after definite instructions have been given in those evolutions. This eliminates the half-hearted or disinterested attitude that would prevail if the men were allowed to choose their own actions.

The setting of engines and handling of ladders following the necessary instructions required for the progress of each movement, may be performed against time, and if practiced until perfected, reduces the possibility of accidents and injuries to the participants.

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gives you *double advantage* in fighting any kind of fire

• Adjustable from complete shut-off through all stages of double cone mist to solid stream and then to single inner cone vapor. This sequence is essential for practical control of liquid fires—danger resulting from going through straight stream feature to accomplish vapor advantages eliminated in our construction.

These 2 cones of mist . . . an exclusive Akron Brass feature . . . are the result of more than 10 years experience in the development of vapor and mist nozzles. AKR-O-MIST is the answer to the demand for a moderately priced nozzle giving the usual as well as the EXTRA advantages provided for because of the perfected engineering. AKR-O-MIST brings about a quicker covering and smothering action because of the TWO cones of mist—inner-penetrating-small volume cone converted into steam almost instantly from heat of fire. Outer larger adjustable cone retains steam—completely smothering fire. Equip your apparatus with AKR-O-MIST Nozzles and you will be ready for any kind of a fire.

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We don't believe any such offer was ever made before . . . an outfit that will keep you comfortably warm and dry in the most severe weather for only $21.45. Read the descriptions then act AT ONCE.

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Coat No. 331 and bunker pants No. 341 . . . any size pants, coat up to 35-in. length . . . equipped with detachable wool linings and the famous Midwestern safety snaps that cannot possibly catch on anything. Material in linings, 80 per cent pure wool; linings edged with reinforced rubberized fabric; coat has two outside pockets with snap fasteners; flexible, elastic inner sleeves for wrists—keeps out water, cold and sparks; corduroy lined collar on coat; pants equipped with cloth scratch pads for pole sliding . . . and many other exclusive Midwestern features that make this extra-serviceable outfit most desirable.

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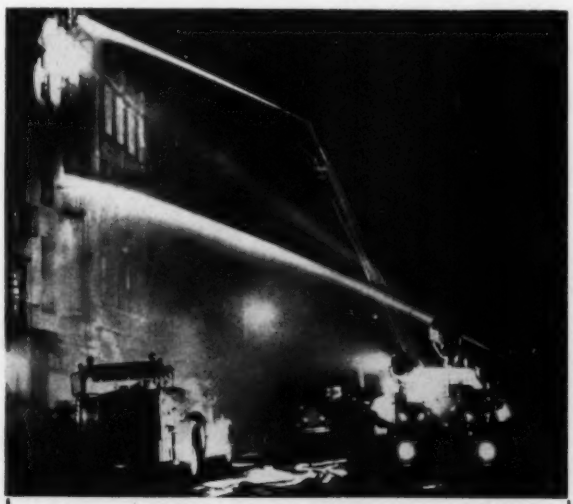

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FREE TO FIRE CHIEFS

Fire chiefs who are seeking increased appropriations for more fire alarm boxes or fire fighting equipment may help their cause by furnishing the Mayor of their city a copy of

"INFLATION AND FIRE CHIEFS"

by ROGER W. BABSON as it appeared in FIRE ENGINEERING for February, 1937. Copies will be sent free to any chief who writes:

BABSON'S STATISTICAL ORGANIZATION, INC.
By ROGER W. BABSON, *President*
Babson Park, Mass.

What Is Back of the Fire Hydrant

(*Continued from page 396*)

is opened up, and while the three are in operation, readings are taken of all three, and so on until it is definitely determined what the flow in any particular area might be.

As a matter of interest, Table 4 is included, showing the discharge from hydrants under various pressures.

Section of Pipe After Having Been in Service Many Years, Showing Incrustations Which Reduce Capacity

Finally, every Fire Chief should know his water system. Hydrants should be branded by using the standard marking system adopted by the New England Fire Chiefs Association and the New England Water Works Association. In this way, all the guesswork incidental to connecting engines to hydrants of insufficient capacities will be eliminated and much valuable time may be saved, particularly in large fires, in getting effective streams, and only effective ones, in operation.

Conclusions

To sum up, the flow from two hydrants of the same size may be different.

The hydrant will only deliver what the water main gives it.

The water main depends upon the pressure in the system for what it will deliver.

The interior condition of the water main, such as corrosion, tuberculation or incrustation, materially affects the flow from the hydrant.

Cross-connection of main multiply the capacity of hydrants many times.

No main smaller than a six inch should be employed in any water system for supply a fire hydrant.

Eight inch mains are even more desirable.

The only way to know what water a hydrant will deliver, particularly if attached to one of the smaller size mains, is to test it.

Mark the hydrants so that your men will know what size engines may be safely attached to them.

Make flow tests every few years, for the interior condition of mains is constantly changing and likewise the supply they are able to deliver to hydrants attached to them.

CREDIT IS GREATLY INFLUENCED BY FIRE DEPARTMENT ACTIVITIES

Explanation of Workings of Credit in Business, and the Risk of Poor Fire Protection and Service to the Creditors

By M. H. Caldwell, Sr.*

"GOOD evening, Chief. Had a big day?

"Only a couple of little ones, eh? That's swell. It's almost too hot to get close to the big ones today.

"Yes, our business is pretty good, in fact a nice percentage ahead of last year in sales, but collections aren't so good.

"Your question is one many people fail to properly interpret. In our business we must at all times keep the money coming in according to terms sale. As a good illustration, one large firm I know about has stated that if they granted an increase of only one day in their terms, it would require $25,000,000 additional capital; interest charges alone on this would amount to $50,000 per day!

"You ask me 'what is credit?' The question is simple. Credit is the life-blood of all business. Our large business institutions would be helpless without it and it has been estimated that if all credit were to be done away with, that business would be where it was 200 years ago. A good example of how credit works could be in the manner in which you are paid your salary.

"Your city paymaster gives you a check, which transfers credit your city has in its bank to you at your bank. You pay your bills, say, rent, groceries and clothes, giving checks to your creditors, which transfers your credit to them. They will in time transfer a part of their credit at the bank back to our city in the form of check, paying taxes. You can now see the circle all this credit has taken and bear in mind no cash money has changed hands: it is all a matter of credit.

Credit Is Power

"There isn't enough money in circulation to take care of ten per cent of modern business, as we understand it today. Credit might also be termed power. It is the power to obtain present goods on the strength of an obligation to pay for them in the future.

"We must be systematic in our Credit Investigation Division. We have sources of accurate information without which extension of credit would be extremely hazardous. Our information gives name, address, trade style (if any), history, financial statement, fire hazard, fire record, record of insurance coverage as well as a very complete record of payment. All of these are very important and necessary. We credit men thoroughly analyze these records, and like you size up a fire, we size up an application and each case stands alone on what we are able to determine in our size-up. Credit is based on character, capital and capability, commonly called the Three C's of credit. Obviously, if one of the C's is missing, you can see the risk is greatly increased.

Many Factors to Be Considered

"From your viewpoint as head of our Fire Department there are many factors credit executives cannot afford to overlook. Many accounts are located in the smaller cities, town and villages where fire protection is totally lacking or badly inadequate. Even in many of our large cities, where, for reasons you and I both know so well, protection is not so good, the insurance premiums are so high that the average small merchant cannot afford to be fully protected. In the average small grocery and meat store, fixtures will represent an investment of around $2,500, while stock, to be reasonably complete will cost $1,500. To many small operators this represents their savings of a life-time, and in more cases that you'd expect, borrowed money. We know many a successful small merchant who started with only a few dollars of his own and by practicing the Three C's of Credit, is well fixed financially today.

"To illustrate my point about insurance, several years ago I called on a potential new account in a small town near here. Subject's building was a corrugated-iron clad wooden structure, badly exposed on three sides. His stock and fixtures represented an average investment of $3,000. That year his sales were $15,000, and he earned for himself, $1,200. He carried no insurance, the rate being so high that it would have cost

*Honorary member, Memphis Fire Department: Credit Manager, Memphis branch, John Morrell & Co.; Member, National Association of Credit Men, and Memphis Association of Credit Men.

him $105 per year premium, which he could not afford. But where do you think his creditors would have been in event of a small fire? In this town there was no water main larger than one inch. In spite of the fact that there were at that time over 25 business firms in that town, their only protection was from the time-honored bucket brigade.

"In event of a fire, this man would have lost everything, including his source of income; his family would have suffered, and from a credit standpoint, the amount owing various creditors would have been a total loss along with his stock and fixtures.

Need for Trained Personnel

"In our field we are trained and paid to prevent such losses, just like you are so trained and paid to conduct your Department so the losses will be as small as possible. This man was highly insulted when I refused to open an account with him, but after I explained our position and the great risk under which he was operating, he saw the light and immediately got busy. Today, eight years later, this little progressive city has excellent protection from as good a volunteer company as I have seen in many years of travel all over this part of these fair United States.

"Another community near here recently took advantage of relief funds and built a swell little fire house. They bought a new triple-combination pumper of modern design second to none. After the apparatus arrived, all the folks got down to the fire house and had a big celebration. Next day, their Fire Department was completely forgotten. Two weeks ago one of their large business houses was completely destroyed, due to lack of trained personnel. The investment in this case could have been as well spent giving the kids candy. Just the opposite can be seen any day across the Mississippi River in Arkansas in a small town of 400 souls about 50 miles from Memphis. They have no fire house, their 1929 Ford truck being housed in the jail. In the past eight years their seven trained volunteers and a well trained Chief have not had a single loss to exceed $100 in the town limits, while its nearest neighbor, with two good pumpers and an untrained personnel, generally loses everything but the lot.

Indifference of the Citizen

"Yes, Chief, you and I have a lot in common. We both are paid and trained to protect our employer's property. We both take chances, true, and we both make our share of mistakes. Your job is to protect life and property, and I might add that you are doing a swell job, considering. Yes, I said considering! Considering that 95 per cent of your employers, Mr. John Citizen, doesn't give a whoop in Gehenna how good or bad your service is, how many 'riff-raff' and 'hangers-on' the powers that be order you to make into smoke-eaters, or the junk and jaloppies you are expected to use for apparatus that were antiquated long before depression. In general, you Chiefs have only a few supporters, and a huge number of drones who expect you to be another miracle man and pull fire protection out of a hat. I know you can't do much about it. Education is slowly seeping in.

"You ask, 'Have I lost any money on accounts directly traceable to fire loss?' I'll say I have!

"To give you an ilustration: A year or so ago a young Chinese saved up a few dollars and went into business in a village near here. He was successful in his small way and made a living from his efforts and investment. A competitor resented the 'foreign invasion' and one night started a hot fire under the Chinaman's building. The loss was total—both for creditors and the Chinese, who barely escaped with his life. This loss was due to an entire lack of fire protection.

Lack of Training Causes Loss

"A short time ago I observed the lack of training which closely approached criminal negligence. This time it was in a small city of 10,000 folks who don't even know they have a Fire Department. The building to which they were called was a one story brick, divided by a hollow-tile wall into a grocery and meat store and living quarters, with only a small window opening in the wall. Fire originated in the living quarters and on arrival of the first and only pumper, considerable smoke was coming out of rear windows, the occupants having escaped through them. Only a small amount of smoke had seeped into the store. In this case the Chief was a young man in his 'teens, son of the local politician. On arriving he ordered a large plate-glass window broken out in the front and two streams directed into the store. Fire finally ate through the living quarters roof. Two citizens, aided and abetted by yours truly, using a 'stolen' line from the pumper, climbed up a gutter pipe and stopped the fire. Fixtures in the store were badly damaged, and the stock was nearly a total loss, all due to water damage. Not a spark of fire got into the store. You can bet I insist that customers we have in that town are fully protected by both fire and water damage insurance.

"Well, Chief, I hope you folks stay at home tonight, but if you do roll past my house, have the Lieutenant hit the bell a couple of extra times—I may be dreaming of the Credit Man's Heaven, a place where everyone pays when due. Good night."

Granfield Made Permanent Chief

Chief Edward Granfield of West Haven, Conn., has been appointed Permanent Chief by the Fire Commission of the West Shore Fire Department. This removes the office from those filled annually by elections. Chief Granfield has been elected Chief each year for the past thirteen years.

J. C. Ernst, St. Louis, Dead

John C. Ernst, District Chief of the St. Louis, Mo., Fire Department, died at a local hospital following a two months' illness. He was sixty-seven years old and spent all of his forty-three years in the department in the down town area.

He was appointed to the department on July 12, 1895, and shortly afterwards was made Lieutenant. Promotion to Captain came at the end of three years, and on August 16, 1933, he was made District Chief.

Chief Ernst was a member of the Missouri Valley Section, I. A. F. C.

Another Appearance for Smoky Burns

Smoky Burns made a decided hit last year in the schools of Aurora, Ill., where he was the feature performer at many gatherings. He was so popular that one of the schools wrote to Chief Edward J. Ryan asking that Smoky come again.

Smoky was not at all excited by all this attention. His wooden head, his straw stuffings, and electrical "innerds" were immune to applause. Smoky was an electrically controlled figure created by members of the department, who placed a loud speaker and other controls

Smoky Burns

where his chest should be. They then attired the figure in a Fire Department outfit and took him out to meet the school children during Fire Prevention Week.

The figure was placed on the stage of a school auditorium, a member of the department sat at a table near the dummy, and another fireman was behind the scenery. He spoke into a microphone and the words came out of the loud speaker. The wire which led to the dummy was concealed.

Smoky carried on a conversation with the man seated at the table, moved his head, sang, and commented on the local school and teachers.

Smoky is to be again assembled and will have an important part in the Fire Prevention Week activities this year.

Charles C. Wilson Dead

Charles C. Wilson, for the past twenty years sales representative of the Fabric Fire Hose Company, died on September 3. He covered the northeastern New York territory. Mr. Wilson was sixty years old.

Fig. 937
Heavy duty
Exhaust Whistle

"At Home" to All Chiefs
SEPTEMBER 27 TO 30
The Buckeye Family

You are cordially invited to visit the Buckeye display at the New Orleans convention. You may be surprised to see how large our "family" has grown, as only a hint of its size is given by the illustrations here. There is a complete line of fire fighting equipment and a line of warning signals that "clear the way by night and day".

BUCKEYE IRON & BRASS WORKS
324 East Third Street - Dayton, Ohio

Fig. 950
Moto - Ray

Fig. 900
2½" Shut-off Nozzle

Fig. 930
Junior type Roto - Ray

Fig. 946
Fog Tip

BUCKEYE
Shut-off Nozzles · Roto-Rays · Whistles

Fig. 926
Self - Returner
Hand Expander

PYLE-NATIONAL

Manufacturers of a complete line of portable and stationary floodlight projectors for use with fire apparatus. Write for Catalog No. 211 with complete information on all types.

The PYLE-NATIONAL COMPANY
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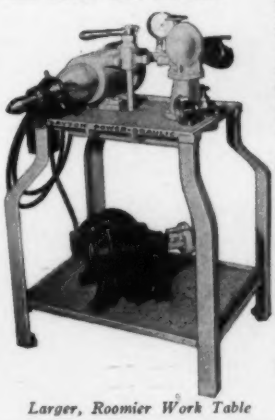
The DAYTON
POWER-DRAULIC
Three-in-one Combination
EXPANDER
HOSE TESTER
AND COUPLING EXTRACTOR

(Removes Old Expansion Rings from Couplings)

It takes all the guesswork out of expanding couplings. . . . Expands all sizes of couplings from ¾" to 6" Suction Size. No manual effort is required, no pumping. Just turn on the switch and the large ¾ H.P. quiet, splash proof gear head motor does the rest.



Larger, Roomier Work Table

The Hose tester enables the operator to test all hose in the department up to 600 lbs.

An extra attachment enables the operator to remove old expansion rings from old couplings easily and quickly without damage to the coupling.

LIBERAL ALLOWANCE ON YOUR OLD HYDRAULIC EXPANDER

Write today for full details and bulletins covering both machines described above.

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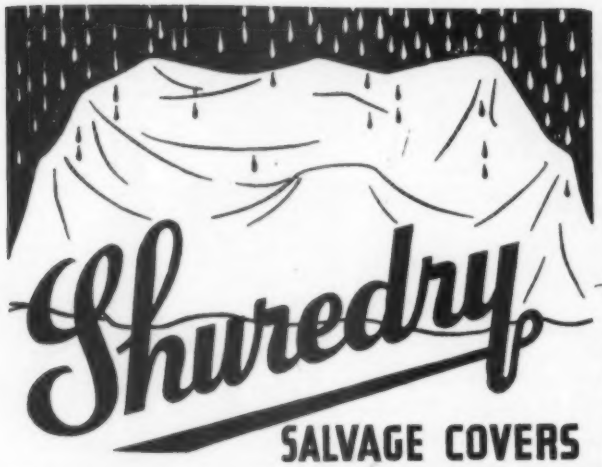

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SALVAGE COVERS

Reduce WATER DAMAGE & INSURANCE RATES

PROGRESSIVE Fire Chiefs everywhere recognize the necessity of improved salvage work if they are to better their records. Shuredry Salvage Covers have been used to illustrate salvage talks by leading Fire Chiefs at many conventions. They have been recommended by these practical men in service for dependability, efficiency and real economy to the department. Easy to handle and to spread, they will not crack when folded or stored. They do not sweat and are chemically treated against mildew.

Write for samples and prices.

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Manufacturers Since 1870
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PORTABLE PUMP

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PORTABLE
Weight, 55 lbs.

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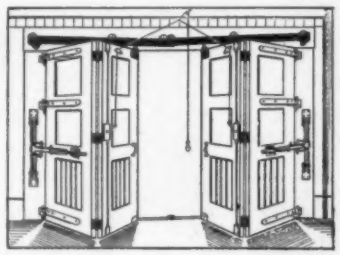

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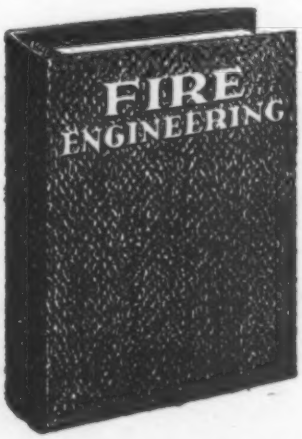

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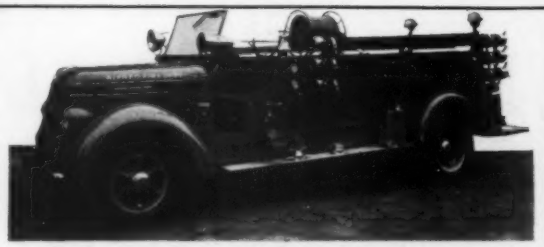

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Pumps • Fire Appliances
Automatic Fire Alarm Systems
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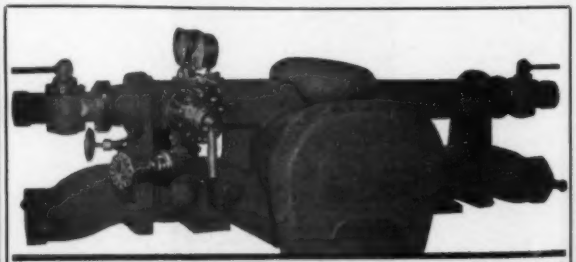


NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.

NEW AMERICAN-LA FRANCE TRUCKS IN SERVICE AT NEWARK AND ANNAPOLIS

First of New 100-Foot, Steel, All-Hydraulic Operated Aerial Ladders Now in Service

THE introduction of new designs in motor fire apparatus this year indicates the effort manufacturers are making to provide Fire Departments with equipment which is not only modern in appearance, but having a greater range of utility and simplicity of operation. Protection for the men and safety in operation are outstanding characteristics.

The 100-foot all-steel aerial ladder is an important addition to the rescue and fire-fighting equipment now available.

Two of these new 100-foot all-steel aerial ladders were recently delivered by the American-LaFrance and Foamite Industries, Inc., and placed in service, one at Annapolis, Md., and one at Newark, N. J.

The overall length of the tractor and aerial is only 53 feet, 2 inches, which is 10 feet shorter than an 85-foot 2-section wood aerial ladder truck. This reduced length means more room in the station and safer operation in traffic.

Another novel feature is the location of the tillerman at the extreme rear. His seat, steering gear, and windshield are permanently mounted, as the four-section aerial ladder beds ahead of the tillerman.

The 100-foot aerial ladder is built in four sections, of a corrosion resisting, cold drawn, high tensile strength steel. This steel has a minimum tensile strength of 70,000 pounds per square inch and this strength holds for temperatures above 600° F., a temperature at which a wood ladder would char or start to burn.

The fabrication of the ladder sections is by the atomic electric welding method.

More room for maneuvering on the ladder is provided as the width between the trussing on the main or butt section is nearly three feet and on the upper fly section is over 25 inches. The trussing also serves as a hand rail to guide a fireman and this trussing on the upper section is 15 inches above the ladder rungs.

The ladder rungs are rubber covered for protection and safety.

Operation Completely Hydraulic

Operation of the ladder is completely hydraulic, with all controls located in a central column on the right hand side of the ladder. The pressure and height gauges are indirectly lighted for night operation.

The platform and ladder are free of any obstruction to a fireman ascending or descending the ladder.

The raising and lowering of the main section is controlled by a single lever with automatic stops for the vertical and bedded position. Extension and retraction of the fly sections are also controlled by a single lever, with automatic stops for full extended and retracted positions. Turntable operation is full 360 degrees and the control is by a lever on the central control mast.

The movement of the fly ladders is by dual controlling cables for each section, each cable having more than ample strength for the ladder control. Thus the dual cable design provides an extra factor of safety as well as being at the ladder sides, out of the way of firemen ascending or descending the ladder.

A conveniently located lever at the base of the main ladder section locks the second ladder section, when elevated or extended to the desired position, thus relieving the cables of the ladder weight.

The Annapolis Apparatus

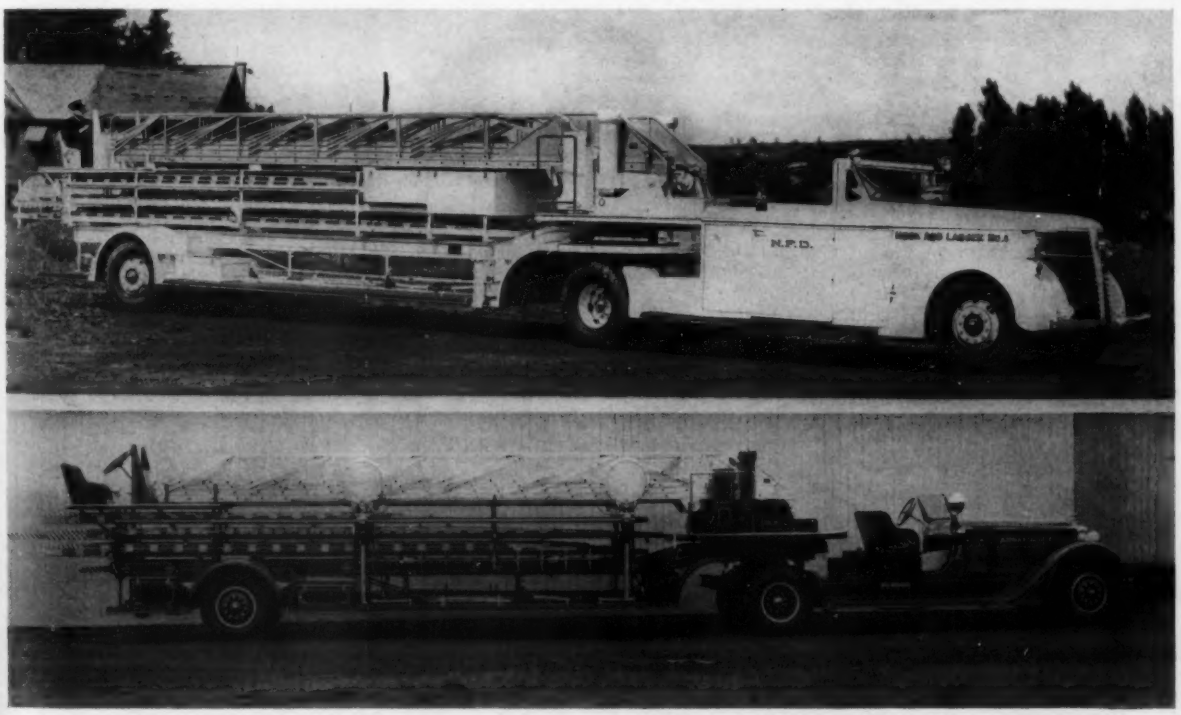
The 100-foot aerial ladder truck at Annapolis has has an unusual capacity for flood lighting for night operation. An engine driven generator of 20 kw. capacity is mounted on the tractor and 18 outlets are provided for extension connections. Four large floodlights, of 2,000 watts each, are mounted on the aerial truck.

A total of 303 feet of ladders is carried in addition to the 100-foot aerial ladder.

The Truck at Newark

The 100-foot all-steel aerial ladder truck at Newark, N. J., carries 206 feet of ladders in addition to the 100-foot aerial ladder.

A special signal system is provided



New Type of Ladder Delivered to (Upper) Newark, N. J., and (Lower) Annapolis, Md.

for operation by the tillerman and driver of the tractor. Special provision has been made for salvage covers to be carried and other special equipment.

The tractor has seating capacity for five men, which eliminates the need for any men to ride the running boards, when responding to an alarm.

Mack Announces New Thermodyne Engine

To be revealed for the first time at the International Fire Chiefs Convention and Show at New Orleans, this month, is the first of a new series of engines produced by the Mack Manufacturing Corporation, for its line of Fire Apparatus. These engines are of an entirely new design which has been in process

New Thermodyne Engine

of development in Mack laboratories for several years, the name Thermodyne having been adopted to reflect the thermodynamic advances achieved in its combustion system.

Combined in the new engine are high output, together with exceptionally heavy duty, durability and reliability. The result is high power and torque per cubic inch, with high output sustained over a wide range of speed.

No departure has been made from the conventional four-stroke cycle, nor from the established carburetor and spark ignition principle. These engines are of the same six-cylinder layout to which Mack has adhered for many years. The complete series will range from 145 to 180 horsepower. Their novelty lies in the arrangement of the combustion chamber, valve and porting whereby the maximum turbulence is combined with extremely even rate of combustion and smooth pressure rise, together with high volumetric efficiency, most favorable spark plug position and clean combustion and scavenging.

Structurally the engine is novel so far as fire apparatus is concerned, in that the crankcase and cylinders are cast in a single block. This practice is fairly common in small engines, but has heretofore presented such problems to the foundry that it has not previously been attempted on engines of this size.

Full advantage of this construction has been taken in imparting extraordinary rigidity to the entire engine, together with the utmost compactness, while full length water jackets have been used to effectively assist in cooling the crankcase oil.

The crankshaft has seven main bearings 3½ inches in diameter and 3-inch pins, and like previous Mack crankshafts, is fully counterbalanced by twelve counterweights forged integral with the shaft.

The combustion chambers employed are considerably offset with reference to the bores so that a large part of the bore is covered by the flat deck of the cylinder head with minimum clearance above the top of the pistons, and the bulk of the combustion chamber volume in the form of a D-shaped domed cavity at one side and above the bore. Both valves open into this cavity and the spark plug is located at a focal point so that the flame propagation is both rapid and even throughout the volume. Furthermore, this combustion chamber shape insures high turbulence. The surface exposed to the flame is at a minimum and cooling is at a maximum.

Controlled temperature cooling continues to be a feature of Mack engines. The thermostatic control being on the same cold-circulation principle used in the past. In addition, on fire pumpers, an auxiliary intercooler is incorporated in the radiator, whereby water from the fire pump is by-passed through a copper coil located in the bottom tank, so that the auxiliary cooling is accomplished without mixing of water, without prejudice to anti-freeze solution.

Rope Nets for Drill Towers

By Ferdinand Ferraro*

The importance of having all drill towers equipped with a rope net has been fully acknowledged by fire chiefs and drill masters, but the problem inherent to the construction of a net which will have real life-saving value, remains the subject of discussions and controversies.

One of the principal reasons for these discussions and controversies is the fact that many fire chiefs and drill masters want their net fully and rigidly stretched so that men can walk upon it without causing any sagging.

If a net is stretched too tightly so that it has no appreciable "give," when even five or six men are upon it, it may result in serious injury to the fireman who may be forced to use it from a height.

The ropes employed in a net must have sufficient elasticity, or other means of absorbing shock must be provided, so as to prevent injuries to a falling body. In order to visualize the requirements of a net, consider the amount of strain to which a net is submitted, when a body falls on it. Assume, for example, that a man of 160 pounds of weight falls accidentally to a net from a height of sixty feet.

From the equation: Kinetic Energy = $\frac{1}{2} \times m \times v^2$ we find that the kinetic energy which this body acquires during its fall is 10,200 pounds, which energy must be absorbed by the net. Divide the 10,200 by the "give" of the net, in feet, and the result will be the impact to which the falling body is subjected.

To provide a taut net, and at the same time to insure sufficient elasticity, a prominent American maker of life nets has developed a mechanical device which is called "Shock Absorber." These shock absorbers are distributed all along the periphery of the net at equal intervals. When the net is subjected to impact they yield gradually to the stress of the impact, and when the falling body comes to rest, they do not recoil suddenly, but remain equilibrated in relation to the weight acting upon them. In this manner they materially reduce shock, and strain upon the net as well.

*Engineering Department, Atlas Fire Equipment Company, New York, N. Y.

New Signal Systems

New Gamewell fire alarm systems, or improvements to existing systems, have recently been made at the following places:

West York, Pa.; Moultrie, Ga.; Mt. Pleasant, Pa.; Cherry Valley, N. Y.; Youngsville, Pa.; Wesleyville, Pa.; Fitchburg, Mass.; Johnson City, N. Y.; Saginaw, Mich.; Quincy, Mass.; Youngstown, Ohio; Nashville, Tenn.; Elwood, Ind.; Newport, R. I.; Adams, Mass.; Nutley, N. J.; Kingston, N. Y.; Hagerstown, Md., and U. S. Navy Yard, N. Y.

Secretary Has Long Time Service

Oscar A. Baker enjoys the distinction of serving as Secretary to the Chief of the Dallas, Tex., Fire Department for thirty-four years, and of hiring Chief S. E. Hansen, who is now his boss.

He was appointed Secretary to the Chief, November 1, 1904, and also did other work in the department. In 1908, he was relieved of fire duty and served both as Secretary and fire alarm operator. After the department went on the two-platoon system in May, 1919, he was placed in charge of the office.

The Fire Prevention Bureau, and the Police and Fire Signal System are under the supervision of the Chief. Mr. Baker has charge of the headquarters office, orders supplies, etc. He has served under five Chiefs.

Before the civil service plan was adopted, he had charge of hiring new

Oscar A. Baker

recruits for over fifteen years. He hired S. E. Hansen, who is now the present Chief.

Mr. Baker has been attending the conventions of the I. A. F. C. since 1906. He claims to be the oldest Secretary of a paid Fire Department in this country.

EASTMAN

A NAME HONORED IN FIRE DEPARTMENTS EVERYWHERE FOR NEARLY 50 YEARS

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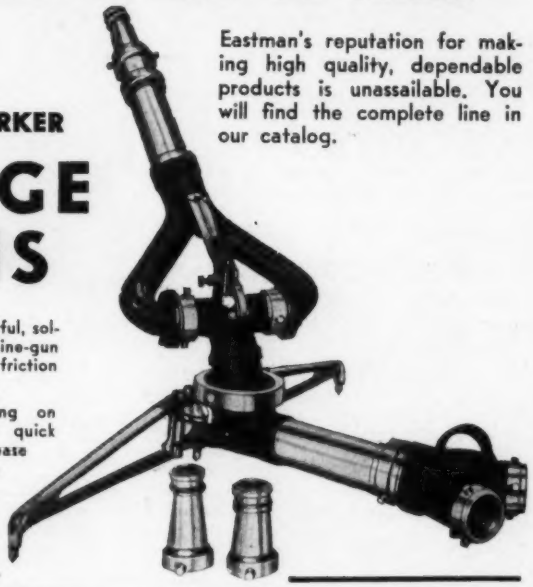
DELUGE GUNS

deliver far-reaching, powerful, solid streams with a machine-gun accuracy and a minimum friction loss.

Compactness for mounting on apparatus, flexibility for quick placing in position, ease in manipulation of volume streams.



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is equipped with a 3-year guaranteed shut-off. Has an unobstructed water way of 1⅝" dia., stream straightener in the reducer, vulcanized rubber-covered, cast-brass handles and delivers solid, far-reaching stream free from breaks at all pressures.

SAMUEL EASTMAN CO. CONCORD, N. H.

ROSS VALVES

The HOSE VALVE

Ross hose valves protect your men, lines and apparatus from any shock due to the pump or shutting down of streams. They maintain any desired pressure (up to 250 lbs.) at the nozzle.

For use on high pressure fire hydrants, standpipes in tall buildings, and on motor-driven fire apparatus. Hose threads to specifications.

The RELIEF VALVE

modernizes old pumpers and makes new ones better. Sure protection against shock when starting pumps or shutting off hose nozzles. A protective heating jacket, connected to either radiator of the engine or the exhaust pipe, prevents freezing. Pressure range to 300 lbs. — capacity, 1000 g.p.m. Also high pressure valves up to 750 lbs.— capacity, 1400 g.p.m.

Send for the Ross bulletins

ROSS VALVE MANUFACTURING CO.
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Acclaimed one of the most important tools in any fire department—

VOLESKE

Improved Ball-bearing

BAR CUTTERS

Fast cutting, powerful, fire chiefs who witnessed demonstrations at several conventions said these tools were the quickest and most effective means of entering buildings protected with iron bars and that the VOLESKE should have its place with the regular fire fighting equipment of every department.

The recent improvements in these cutters make it possible for one man to cut a ¾" bar in 18 seconds and at a 20% reduction in physical effort.

Send for literature showing complete line together with prices.

VOLESKE TOOL COMPANY
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Corrigan, Aviator, Honored by Syracuse

Douglas "Wrong Way" Corrigan, famous aviator, is now a full-fledged fire laddie.

The flier, celebrated for his transoceanic flight from New York to Ireland, was appointed an honorary member of the Fire Department of Syracuse, N. Y., by Mayor Rolland B. Marvin and Chief Edward W. Gieselman, when Corrigan and his equally famous "crate" landed in that city, August 18 last, on a cross-country air tour to the Pacific Coast from the Atlantic seaboard.

While the daring, irrepressible Irishman of the ingratiating smile is being lionized by the nation and the world in general, he's just a number to the Syracuse fire fighters, 48—exactly one for every State in the Union.

Tribute to Ex-Chief F. E. Tracy

An unusual tribute of affection, admiration, and respect was paid to Ex-Chief Frank E. Tracy, Woburn, Mass., Fire Department, on the evening of August 15, when in spite of a blistering hot day, with temperatures in the nineties, more than 300 fire officials and other friends gathered in the Woburn Country Club, to attend a testimonial banquet to the 83-year-old Chief, to present him with a huge silver loving cup, and to wish him happiness in his retirement.

Speakers included Mayor William E. Kane, Woburn; Chief Daniel B. Tierney, Arlington, Mass., President of the International Association of Fire Chiefs; Chief Selden R. Allen, Brookline, Mass., Past-President of the International and New England Associations of Fire Chiefs; Chief William C. Mahoney, Peabody, President, Fire Chiefs' Club of Massachusetts; State Fire Marshal Stephen C. Garrity; Chief George L. Johnson, Waltham; Judge William H. Henchey, Joseph F. Cohalan, and Leonard Buchanan. Rev. Fr. James J. McCarthy, of Montvale, offered the invocation and Postmaster Philip J. Gallagher acted as Toastmaster.

HARRY BELKNAP

Long Service Record

In response to the search for the longest fire service record, that of Chief W. P. Weeks, Battle Creek, Mich., is presented.

He joined the department on March 4, 1880; became Captain in 1882; Assistant Chief in 1890; Chief on February 8, 1892. The length of service is over fifty-eight years.

Chief Weeks at His Desk

New York City Launches $1,000,000 Fireboat

In the presence of Mayor La Guardia and Fire Commissioner John J. McElligott, New York City launched the "Fire Fighter," a $1,000,000 fireboat built at the yards of the Bethlehem Shipbuilding Corporation, Staten Island.

The boat was christened by Eleanor Grace Flanagan, eighteen-year-old daughter of Lieut. Joseph Flanagan. She was selected because she had the highest scholastic average of any fireman's daughter graduated from high school last June.

As the boat slid into the water, she was given a water salute from the fireboats Gaynor and Harvey, nearby.

Commissioner McElligott described the boat for the spectators. The boat is 135 feet long, with a 32-foot beam and a 10.5 foot draught. She is driven through twin screws by diesel engines capable of propelling the boat at a speed of sixteen to seventeen knots. The boat will have a pump capacity of 20,000 g.p.m., and a compressor capacity for operating four pavement breakers to cut through concrete piers.

The boat will be completed in about two months and will accommodate a crew of thirteen.

New Haven Plan Prospers

The New Haven County Fire Chiefs' Emergency Plan completed its first year's activities with a dinner-dance held at Waverly Inn, Cheshire, Conn., on June 14.

The members were shocked by the sudden death of their President, Captain William Russell, Waterbury. Captain Russell was one of the originators of the New Haven County Plan and was its first Vice-President. He was an ardent worker for the plan and it was due mainly to his efforts that the Association prospered.

At a meeting of the Plan held July 12 at Guilford, Chief James Swann of Seymour was named President. Other officers elected were Vice-President, Asst. Chief Francis O. Spaine, New Haven; Chief Clarence Norton, Guilford, Second Vice-President, and Chief Lloyd Cameron, West Haven, Third Vice-President. Chief Thomas Cavanaugh, Waterbury, was named to the Board of Directors.

The Association voted to accept the invitation of Chief M. R. Brockett, North Haven, to hold the opening meeting of the fall season at North Haven on September 20 and the October meeting on October 18 at Hamden.

THOMAS F. MAGNER.

Wife of Chief Delfs, Dead

Word has just been received of the passing of Mrs. Hugo Delfs, wife of Chief Delfs of Lansing, Mich., on August 30. Chief Delfs is President of the Great Lakes Division, I.A.F.C.

THE S.O.S. INHALATOR

Has been accepted by the Council on Physical Therapy of the AMERICAN MEDICAL ASSOCIATION

Efficient - Economical - Safe - Simple
Weighs Only 35 Pounds

DEALERS and JOBBERS WRITE FOR DETAILS

MANUFACTURED BY **$125.00** F.O.B. Chicago

OXYGEN EQUIPMENT & SERVICE CO.
PALMOLIVE BUILDING, CHICAGO, ILLINOIS

HEWITT-GUTTA PERCHA FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

CHIEF!

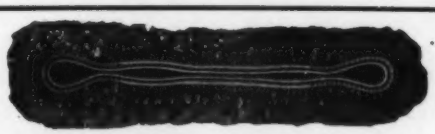
Insist on the GENUINE COLT when buying Shut-Off Nozzles... and get the best

The unquestioned durability of the COLT has for twenty-five years been the subject of discussion among fire fighters.

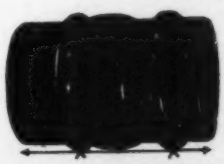
When efficiency is demanded, the COLT has been found to be the easiest to operate, and will stand the severest test of strength and use better and longer than any other nozzle.

If your dealer cannot supply you, write us for name of dealer nearest you.

EXCELSIOR BRASS MFG. CO.
217-219 W. Illinois Street, Chicago, Illinois



This is the new LIGHT WEIGHT
BI-LATERAL FIRE HOSE



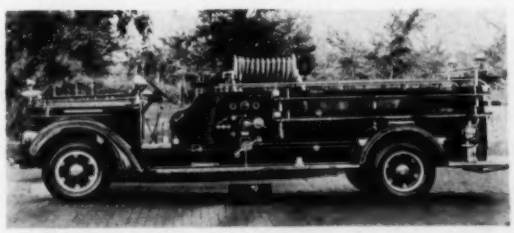
This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

BI-LATERAL FIRE HOSE COMPANY
20 N. Wacker Drive Chicago, Illinois



Our trucks are powered by International. 183 company-owned sales and service stations stand squarely behind International fire trucks operating in their respective territories.

NATIONAL FIRE APPARATUS CO., Galesburg, Illinois

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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COMPLETE INFORMATION UPON REQUEST

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OAKLAND, CALIFORNIA
Dealers in All Parts of the Country

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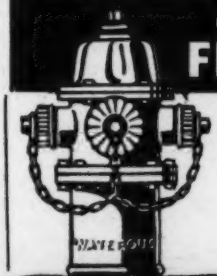

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ESTABLISHED 1886

WATEROUS COMPANY - ST. PAUL

Introducing **SALVAGE COVERS**

DIAMOND BRAND

ASSURE COMPLETE PROTECTION • REDUCE WATER DAMAGES

New and improved type — lighter in weight — easier spread — double cemented, water-tight seams—made to conform to the rigid requirements of New York City Fire Patrol and Newark, N. J., Salvage Corps.

SAMPLES AND QUOTATIONS ON REQUEST.
DISTRIBUTOR AGENTS WANTED. TERRITORIES OPEN.

Chief Jas. T. Keegan, Salvage Corps., Newark, N. J., says about DIAMOND BRAND SALVAGE COVERS:
". . . On April 1st I banked your cover on the floor and placed about 30 gallons of water in it and left it for 12 days. On April 13th I made a blanket of it extending it suspended by ropes and put 15 gallons of water in it and left it hanging for one week. I can recommend that it did not leak all of the while . . . and that it will do the job for anyone who does salvage work."

DIAMOND BRAND CANVAS PRODUCTS 148-150 Greene St., New York, N.Y.

Official Canvas Goods Manufacturers for Boys Scouts of America

E & J Resuscitator

ASPHYXIA, once started, progresses with extreme rapidity—cessation of respiration, then circulation.

The **E & J Resuscitator** affords efficient aeration of the lung. It adjusts itself automatically to infant or adult lung capacity.

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Glendale - - California

DETECTAFIRE CORPORATION

offers

Underwriters' Laboratories Approved Automatic Fire Detector Unit.

Approved and installed by prominent Institutions, Hospitals, Factories and Home Owners.

Cost amazingly low — opening up vast new field.

New territory available for high-grade representatives.

310 FORD BUILDING
DETROIT, MICHIGAN

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

COVER'S NOD and SHAKE SMOKE MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke and saves the lungs.

Why get sick?

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample, postpaid.

H. S. COVER
Station A, SOUTH BEND, IND.

110 VOLTS A. C.
Anywhere

For Operating
FLOOD LIGHTS, PORTABLE SAWS, DRILLS, etc.

350-Watt AC Katolight, Jr., $89.60
Fully Portable, Only 55 pounds

550-Watt AC Plant, $130.00
Only 84 pounds

Gas-Engine AC & DC Plants up to 10,000 Watts AC & DC Generators
Engine-driven 6 & 12 volt Battery Chargers

Write for Circulars and Discounts

KATO ENGINEERING COMPANY
MANKATO, MINNESOTA, U. S. A.

Catalog Service

BEFORE you buy, you may want to find out what the various manufacturers have to say. You can get their sales literature without cost or obligation.

Refer to Page
453

WHO'S WHO IN THE FIRE SERVICE

A Roster of Progressive Fire Officers and Others Who Are Members of the Seven Affiliated District Organizations of the International Association of Fire Chiefs

SOUTHEASTERN DISTRICT ASSOCIATION

(Southeastern Association of Fire Chiefs)

ACTIVE MEMBERS

ALABAMA

W. W. Stephens, Ind. Chief, Anniston.
E. C. White, Chief, Anniston.
Eugene Clark, Chief, Cullman.
Sol I. Green, Chief, Gadsden.
R. M. Milan, Chief, Huntsville.
C. L. Ingraham, Chief, Montgomery.
A. R. Plott, Chief, Opelika.
C. H. Thrasher, Chief, Tuskegee.

FLORIDA

J. F. MacMillan, Chief, Cocoa.
G. C. Miller, Chief, Crescent City.
B. B. Hart, Chief, Daytona Beach.
L. W. Cook, Chief, Delray Beach.
W. J. Duke, Chief, Eustis.
W. Q. Dowling, Chief, Jacksonville.
H. R. Chase, Chief, Miami.
J. S. Stephenson, Chief, Miami Beach.
Gideon Dean, Chief, Orlando.
Steve Edwards, Chief, Quincy.
W. B. Parkhill, Chief, St. Augustine.
A. H. Tuthill, Chief, St. Petersburg.
J. L. Hicks, Chief, Talladege.
T. P. Coe, Chief, Tallahassee.
E. L. Matthews, Chief, Tuscaloosa.
Charles D. Toole, Chief, Verno Beach.
M. A. Pfaender, Chief, Winter Haven.
Walter Sache, Chief, Winter Park.

GEORGIA

D. W. Brosnan, Chief, Albany.
J. F. Monohan, Chief, Americus.
E. F. Lester, Chief, Athens.
O. J. Parker, Chief, Atlanta.
H. B. Rich, Chief, Bainbridge.
Ben T. Mills, Chief, Cartersville.
T. L. Mewborn, Chief, College Park.
W. B. Miller, Sr., Chief, Columbus.
R. C. Thompson, Chief, Cordell.
V. E. Bouchillon, Chief, Covington.
Henry Springfield, Chief, Dalton.
H. H. Hansen, Ex-Chief, East Point.
Max Wiggens. Chief, East Point.
T. P. Horne, Chief, Fitzgerald.
E. F. Beville, Chief, Gainesville.
C. W. Corless, Chief, La Grange.
V. C. Shepard, Ex-Chief, Macon.
E. M. Edenfield, Chief, Millen.
G. B. Hunt, Chief, Moultrie.
C. B. Bradford, Ex-Chief, Rome.
W. T. McKinney, Chief, Rome.
J. H. Monroe, Chief, Savannah.
W. M. Hagins, Chief, Statesboro.
J. E. Porter, Chief, Thomasville.
J. M. Cook, Chief, Valdosta.
N. L. Parker, Chief, West Point.

KENTUCKY

B. Churchill, Chief, Barbourville.
C. L. Henry, Chief, Lexington.
Russell Dyche, Chief, London.
Harry R. McDonald, Chief Salvage Corps, Louisville.
Edward McHugh, Chief, Louisville.

MISSISSIPPI

Sam Bellipanium, Chief, McComb.
W. F. C. Partin, Chief, Meridan.

NORTH CAROLINA

H. W. Palmer, Chief, Charlotte.
Frank Bennett, Chief, Durham.
Frank D. Shaw, Chief, Greensboro.
D. E. Shuford, Chief, Hickory.
Sherwood Brockwell, State Fire Marshal, Raleigh.

SOUTH CAROLINA

A. S. Mauldin, Chief, Anderson.
O. Kirkwood, Chief, Bennettsville.
A. McMarsh, Chief, Columbia.
F. E. Donald, Chief, Greenville.
C. V. Powers, Chief, Hendersonville.
H. B. Wells, Chief, Newberry.

TENNESSEE

Robert Jones, Chief, Chattanooga.
A. W. Allen, Ind. Chief, Columbus.
W. B. Beard, Chief, Columbus.
J. E. Wardrep, Chief, Jefferson City.
L. L. Geisler, Chief, Johnson City.
J. B. Pyle, Chief, Kingsport.
C. M. Johnson, Chief, Knoxville.
Irby Klinck, Chief, Memphis.
Frank H. Harris, Chief, Rogersville.

VIRGINIA

James M. Duncan, Jr., Chief, Alexandria.
L. B. Rapp, Chief, Lynchburg.
G. A. Powers, Chief, Newport News.
R. S. Baughan, Chief, Norfolk.
E. H. Rouse, Chief, Orange.
Roscoe A. Foster, Chief, Portsmouth.
J. H. Bangley, Chief, Suffolk.
H. L. McClanan, Chief, Virginia Beach.

WEST VIRGINIA

Ralph F. Doolittle, Chief, Fairmount.

ASSOCIATE MEMBERS

ALABAMA

Arthur H. Wilson, Birmingham.

FLORIDA

F. W. Knowppel, Jacksonville.

GEORGIA

Charles Berst, Atlanta.
E. C. Hills, Atlanta.
Roy S. Timmerman, Atlanta.

NORTH CAROLINA

Thomas O. Stewart, Charlotte.

TENNESSEE

W. J. Sams, Assistant Chief, Knoxville.
Lester H. Brenner, Memphis.
J. Felton Leach, Norris.

VIRGINIA

J. W. Grant, Master Mechanic, Portsmouth.

Chief George Haggerty Dead

George Haggerty, for eleven years Chief of the Berkeley, Cal., Fire Department, and a member of the service for forty-two years, died at the Alta Bates Hospital on August 12. It is believed that death was caused by a cerebral hemorrhage and accompanying stroke.

He was a native of Berkeley and was the third consecutive head of the department to die in service since the department was organized.

Chief Haggerty joined the department in 1896, as a volunteer, when he was sixteen years old. When the department was partly organized on a full time basis, he was unable to resist the thrill of fire fighting, and he became a call man. He became Captain in July, 1908; Battalion Chief soon afterwards; Deputy Chief on July 1, 1913; Assistant Chief on May 9, 1916; Chief on May 1, 1927.

Friends believe that injuries received at a blast, which wrecked a home seven years ago, contributed to his death.

He was a member of the B.P.O. Elks, Knights of Columbus, Lions Club, and President of the Volunteer Firemen's Association.

The late Chief is survived by his widow, a daughter and a son, and a brother. His father was a member of the old San Francisco Fire Department.

I.A.F.C. Itinerary for Chicago Chiefs

A "Chiefs' Special," will leave the Central Station, Chicago on Sunday, September 25 at 6:05 p.m., standard time over the Illinois Central Railroad, to bring Chiefs from that section to the I.A.F.C. convention at New Orleans.

Stops will be made at Champaign, Mattoon, and Carbondale, Ill., Memphis, Tenn., and Jackson, Miss. Those from St. Louis and points west will join the party at Carbondale. The train is scheduled to arrive at New Orleans, 7:50 p.m., the following day, but if enough register to warrant a special train, it will arrive much earlier.

From Chicago to New Orleans, the round trip fare is $42.25 with $7.10 for a Pullman lower berth; $5.40 for an upper berth; drawing room for two, $25.20, and compartment for two, $19.95.

The trip is being arranged by Frank F. Stover, The Gamewell Company, Chicago.

N. J. Chiefs Meet Sept. 23

The annual meeting of the New Jersey State Fire Chiefs' Association will be held at 8 p. m. on Friday evening, September 23 in the Atlantic City Auditorium, Atlantic City, N. J.

Carolan Re-elected by Montana Firemen

T. W. Carolan, an attorney from Forsyth, Mont., was re-elected to his fourth term as head of the Montana State Firemen's Association, at its 47th annual convention, held at Whitefish, August 4 to 6.

Walter Tillman, Shelby, was elected Vice-President; Robert Thorburn, Billings, Secretary-Treasurer; Joe Munger, Helena, three-year term as member of the Legislative Committee. The 1939 convention will be held at Red Lodge.

The chief address at the convention was made by Charles Lum, of the National Board of Fire Underwriters.

Ex-Chief Vose Dead

Ex-Chief Cutler L. Vose, Cambridge, Mass., died on September 1 at his home in East Weymouth after an illness of several years. He was 69. Born in Houlton, Me., he went to Cambridge in 1878 and engaged in the upholstery business. He was appointed to the Cambridge Fire Department in 1895, and served for 28 years, rising through the ranks to Deputy Chief which position he held for a long time under Chief James M. Casey. He was appointed Chief of the Cambridge department in 1934 and retired four months later. He was known as an able and efficient officer and was well liked for his kindly disposition and friendliness. He is survived by his widow, one son, and one daughter.

HARRY BELKNAP.

Manufacturers' Announcements

Air Respirators

A fresh air type of hose mask is being manufactured by the Acme Protection Equipment Company, 3628 Liberty Ave., Pittsburgh, Pa.

A blower, mounted in a substantial fibre trunk, is placed outside of the danger zone, and is used to supply fresh

Details of Respirator and Mask

air to the wearer of the respirator. The mask has full vision. Folder M 385 has been issued to describe this device.

Suction Hose

B. F. Goodrich Company, Akron, Ohio, is making suction hose with a process they term Spiralock. The hose material is locked around a spirally wound wire. It is said that even if the hose should be crushed, the wire can be hammered back into position without serious damage. The hose is available in sizes from 1½-inch to 4-inch.

Oxygen Breathing Apparatus

An illustrated folder has been issued by Mine Safety Appliances Company, Pittsburgh, Pa., to describe the M.S.A. one-hour oxygen breathing apparatus. The apparatus is designed for gas concentrations too high for the canister type of mask.

Fire Fighting Equipment

Ernest N. Day, Sales Manager, New Jersey Fire Equipment Company, 265 North Avenue, Dunellen, N. J., announces the publication of a complete fire-fighting catalogue. The organization is a New Jersey representative for Peter Pirsch & Sons Company, and for B. F. Goodrich Company.

Daughter of Capt. Truslowe Dead

Mary Jane Truslowe, seven-year-old daughter of Capt. E. Taylor Truslowe of Englewood, N. J., died after an illness of a year during which she underwent seven operations and forty-two blood transfusions. She suffered a ruptured appendix on August 3, 1937. Blood for her transfusions were supplied by her father and members of the Fire Department. The firemen who were blood donors were honorary pall bearers.

Graham Heads Connecticut Firemen

John E. Graham, of the Bureau of Fire Alarms at Waterbury, Conn., was elected President of the Connecticut State Firemen's Association at the 55th annual convention held at the Town Hall, Milford, August 19 and 20. Graham succeeds John J. Sullivan, East Hartford.

Chief Cornelius J. Carrigan of Terryville, a member of the Executive Committee representing Litchfield County, was chosen as State Vice-President, the office previously held by Graham.

David W. Harford of South Norwalk, Secretary of the Association for the past 17 years, was re-elected.

Assistant Chief Michael T. Souney, New Britain, was unanimously re-elected as State Treasurer. Rev. Michael J. Thompson, Niantic, was again named State Chaplain. Capt. Thomas F. Magner, Bridgeport, was re-elected Press Representative.

County Vice-Presidents elected are:

John E. Graham

Litchfield County, John H. Griffin, Norfolk; Hartford County, Thomas H. Sexton, East Hartford; Tolland County, George B. Milne, Rockville; Windham County, Emery R. Barber, Moosup; Fairfield County, Lieut. John F. Clancy, Bridgeport; New Haven County, Frank T. Loller, Hamden; Middlesex County, A. J. Fulton of Middletown; New London County, Harry J. Lieberman, Norwich.

The convention was opened with an address of welcome by First Selectman Harry M. Merwin, Milford. John C. Satti, Secretary of State, New London, addressed the convention and praised the firemen of Connecticut for their strict devotion to the duty of protecting life and property. Secretary Satti, a forceful speaker, was cheered at the conclusion of his remarks.

Upon invitation of Mayor Jasper McLevy, Bridgeport, the delegates voted to hold the 1939 convention at Pleasure Beach in that city. There were 412 delegates present, representing 218 companies.

Following the conclusion of the two day's business session, the firemen participated in a huge parade of old and modern fire apparatus on Saturday afternoon. It was one of the most colorful firemen's parade ever held in the state with 6,000 in the line of march.

Six divisions took part in the parade and twenty-five prizes were awarded.

THOMAS F. MAGNER.

Deputy Chief Spillane Dead

Deputy Chief Frank J. Spillane, Denver, Col., next in command to Chief John F. Healy, died as the result of a heart attack in his home. He was fifty-two years old.

Chief Spillane was stricken while dressing to report for work at the fire station. A department rescue squad was called and oxygen administered. Chief Spillane was removed to a hospital, where he died shortly afterwards.

Doctors said that an attack of pneumonia last fall had left his heart in a weakened condition.

He joined the department on December 1, 1907, was promoted to Lieutenant on March 13, 1912; Captain on July 1, 1918; Assistant Chief on March 1, 1931, and Deputy Chief on January 16, 1933.

Chief Spillane is survived by three brothers and two sisters.

Charles F. Maulen Dead

Charles F. Maulen, well known in the fire-fighting field, and for over forty-four years a member of the organization of the Gamewell Company, died suddenly on the afternoon of Sunday, September 4, at Dallas, Tex.

Mr. Maulen was born in Germany in 1866 and came to America in 1869, attending school in New York City. He recently returned from a visit to his native land.

At the time of his death, Mr. Maulen was District Sales Manager at Dallas, Tex., for the Gamewell Company. Mr. Maulen was a member of the Dallas Masonic Lodge, the Knights Templar and Hella Temple.

He is survived by his widow, Mrs. Frances E. Maulen, and a brother, Adolph Maulen, Williamsport, Pa. Funeral services were held at 2 p. m., Tuesday, September 6, from Weiland's

The Late Charles F. Maulen

Funeral Church, Dallas, and interment was at Grove Hill Cemetery, Dallas, at which a Masonic funeral service was held.

CHIEF D. B. TIERNEY
President
Arlington, Mass.

CHIEF R. E. MOTTESHEARD
First Vice-President, and Secretary-Treasurer
Great Lakes Division
Dearborn, Mich.

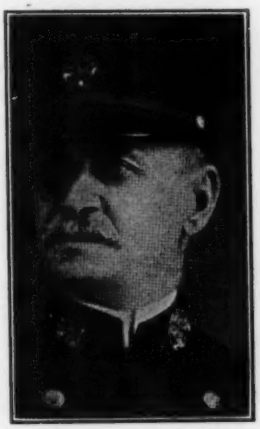
CHIEF RAY TILLER
Second Vice-President and Secretary-Treasurer
Missouri Valley Division
Waterloo, Iowa

JAY W. STEVENS
Executive Secretary
San Francisco, Cal.

CHIEF P. STEINKELLNER
Director
Milwaukee, Wis.

CHIEF ROSS B. DAVIS
Director, and President
Eastern Division
Philadelphia, Pa.

CHIEF JOHN M. EVANS
Convention Host and Ex-President
New Orleans, La.



EX-CHIEF J. J. MULCAHEY
Recording Secretary-Treasurer
Yonkers, N. Y.

CHIEF JAMES T. O'DONNELL
Director
Chief of Salvage Corps
St. Louis, Mo.

CHIEF JOHN W. O'HEARN
Director, and Secy.-Treas.
New England Division
Watertown, Mass.

CHIEF L. B. CANFIELD
Director
Beverly Hills, Cal.

CHIEF J. RAY ROE
Director
Abilene, Texas

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Chairman, Membership and Convention Attendance Com.
New York, N. Y.

CHIEF RALPH J. SCOTT
Chairman, Educational Com.
Los Angeles, Cal.

CHIEF R. A. BOGAN
Past President
Baton Rouge, La.

CHIEF JAMES T. KEEGAN
Chairman, Exhibit Com.
Chief of Salvage Corps
Newark, N. J.

CHIEF N. LONGVAL
President
Dominion Division
Shawinigan Falls, Que.

DEP. CHIEF J. J. T. WALDRON
First Vice-President
Eastern Division
New York, N. Y.

EX-CHIEF R. L. SMITH
Ex-President, and Treasurer
Eastern Division
Pittsburgh, Pa.

CHIEF C. E. CLARK
Secretary
Eastern Division
Wayne, Pa.

CHIEF HUGO R. DELFS
President
Great Lakes Division
Lansing Mich.

GEORGE E. MORLEY
Sergeant-at-Arms, I.A.F.C.
Fire Alarm Engineer
New York, N. Y.

CHIEF E. A. JOHNSON
President
Missouri Valley Division
Boulder, Colo.

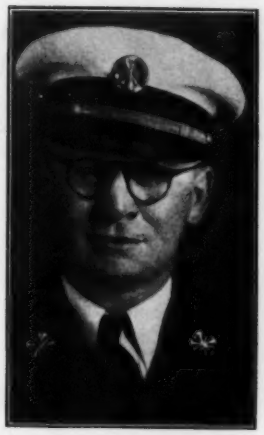
CHIEF THOMAS F. BURNS
President
New England Division
Bridgeport, Conn.

COMMITTEEMEN AND OFFICERS OF DIVISIONAL ASSOCIATIONS, I. A. F. C.

CHIEF S. J. POPE
First Vice-President
New England Division
Boston, Mass.

CHIEF W. S. KNIGHT
President
Pacific Coast Division
Salt Lake City, Utah

CHIEF W. R. WILLIAMS
First Vice-President
Pacific Coast Division
Fresno, Cal.



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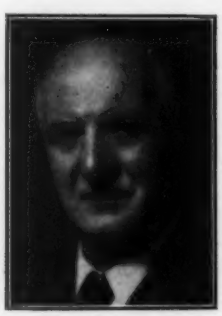

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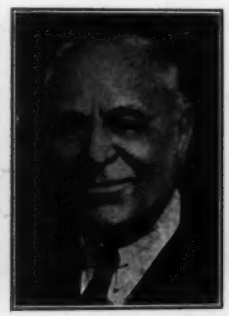

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CONVENTION DATES

Sept. 11—CONNECTICUT DAY AT NEW YORK FIREMEN'S HOME. Day set apart for Connecticut Firemen to visit Firemen's Home at Hudson, N. Y. Address Capt. John Moehring, Sec'y, Fairfield County Fire Chiefs' Emergency Plan, Toms Road, Stamford, Conn.

Sept. 12-14—OREGON FIRE CHIEFS' ASSOCIATION. Annual Convention, Pendleton, Ore. (At time of Round Up Week.) Secretary, Thomas Coates, Tillamook, Ore.

Sept. 12-15—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. 43rd Annual Convention, Lord Baltimore Hotel, Baltimore, Md. Secretary, Irvin Shulsinger, 7 East 42nd Street, New York City.

Sept. 12-15—LOUISIANA STATE FIREMEN'S ASSOCIATION. 33rd Annual Convention, Minden, La. Secretary, T. E. Wright, Houma, La.

Sept. 14-15—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 13th Annual Convention, Trenton, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 South Grand Blvd., St. Louis, Mo.

Sept. 15-17—INTERNATIONAL ASSOCIATION OF POLICE AND FIRE SURGEONS. Annual Convention, Atlantic City, N. J. Secretary, Dr. Harry M. Archer, 47 West 85th Street, New York City.

Sept. 19-22—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 45th Annual Conference and Fire School, Salt Lake City, Utah. Secretary, ex-Chief Jay W. Stevens, Merchants' Exchange Bldg., San Francisco, Cal.

Sept. 20.—NEW HAVEN COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, North Haven, Conn. Secretary, Chief John Pachl, New Haven Annex, Conn.

Sept. 20-21—IOWA FIREMEN'S ASSOCIATION. 61st Annual Convention, Belle Plaine, Iowa. Secretary-Treasurer, Paul A. Soener, Independence, Iowa.

Sept. 20-22—GREAT LAKES FIRE CHIEFS' ASSOCIATION. Annual Convention, Kokomo, Ind. (Jointly with Indiana State Fire Chiefs' Association.) Secretary-Treasurer, Chief R. E. Mottesheard, 4501 Schaefer Road, Dearborn, Mich.

Sept. 20-22—INDIANA STATE FIRE CHIEFS' ASSOCIATION. 12th Annual Convention, Kokomo, Ind. (Jointly with Great Lakes Division, I. A. F. C.) Secretary, Archie McCabe, Muncie, Ind.

Sept. 23-24—NEW JERSEY STATE FIREMEN'S ASSOCIATION and NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. 61st Annual Convention, Atlantic City, N. J. Secretary, Firemen's Association, Evan F. Benners, 602 Chamber of Commerce Bldg., Newark, N. J. Secretary, Chiefs' Association, Fred A. Trowbridge, Morristown, N. J.

Sept. 26-29—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 16th Annual Convention, Santa Barbara, Cal. Secretary-Treasurer, Harry E. Strasser, P. O. Box 506, San Diego, Cal.

Sept. 27-30—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 66th Annual Conference, Roosevelt Hotel, New Orleans, La. Secretary-Treasurer, Ex-Chief James J. Mulcahy, 16 Franklin Ave., Yonkers, N. Y. Chairman, Exhibits, Chief James T. Keegan, Salvage Corps, 227 Washington Street, Newark, N. J.

Sept. 27-30—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 38th Annual Meeting (during I. A. F. C. Convention), Hotel Roosevelt, New Orleans, La. Secretary-Treasurer, Chief J. Ray Pense, Stillwater, Okla.

Oct. 4-6—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 59th Annual Convention, Lebanon, Pa. Secretary, Chief Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 18—NEW HAVEN COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Hamden, Conn. Secretary, Chief John Pachl, New Haven Annex, Conn.

Oct. 18-20—ILLINOIS FIREMEN'S ASSOCIATION. 51st Annual Convention, Père Marquette Hotel, Peoria, Ill. Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill., or Chief Frank Hazzard, Peoria

Oct. 18-20—INDIANA FIRE SCHOOL. 5th Annual Fire School, Purdue University, Lafayette, Ind. Director, W. A. Knapp, Engineering Extension Dept., Purdue University.

Oct. 18-20—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 57th Annual Convention, Freemont, Neb. Secretary-Treasurer, Louis A. Novak, Room 5, Koehn Bldg., Norfolk, Neb.

Oct. 19—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. Regular Meeting, Halstead Manor Fire House, Mamaroneck, N. Y. Secretary, Captain Howard Geer, Fire Headquarters, Rye, N. Y.

Oct. 21-22—ALABAMA STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, Mobile, Ala. Secretary, George E. Crossett, 1916 6th Ave., North, Birmingham, Ala.

*Oct. 26—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Next Meeting, Fire House, Noroton, Conn. Secretary, Capt. John Moehring, Toms Road, Stamford, Conn.

July 13-16, 1939—ILLINOIS FIRE COLLEGE. 14th Annual Fire College, University of Illinois, Champaign-Urbana, Ill. Director, L. H. Provine, at the University, or Secretary, Illinois Firemen's Association, Asst. Chief R. W. Alsip, Champaign, Ill.

*The notices marked with an asterisk are either appearing for the first time or have been changed since the preceding issue.

N. Adams Votes Against Fire House

North Adams, Mass., voted against the plan of permitting the Mayor to apply for a PWA grant to be used in the construction of a $131,937 central fire station. The State Fire Marshal termed the present headquarters, "as big a fire hazard as this city has."

CORRESPONDENCE

Tanks in Service Have Not Exploded

To the Editor:

May I comment on the editor's note at the bottom of the article on page 300 of the July 1938, issue of FIRE ENGINEERING. This article describes an explosion of an underground tank which had been dug up and was placed above ground, resting against a building.

I hope that no one reading this will misinterpret it as being a contradiction of the statement that I made in the article "Community Oil Fire Hazard" to the effect that no underground tanks *in service* had ever exploded. This tank obviously was not an underground tank *in service* as it had been out of service for several years, and at the time the explosion occurred, was standing above ground, and very obviously, was without proper connections as these had to be broken at the time it was dismantled.

As a matter of fact, we not only practice, but we encourage, the practice of filling all service station tanks that have been abandoned with some solid material, other than water, and have found dry sand to be excellent for this purpose. My object in writing this is to correct any false impression which might have been made, and which I am sure was unintentional.

Yours very truly,
JOHN T. HOWELL,
Fire Protection Engineer,
Union Oil Company of California

* * *

Value of Steam

To the Editor:

Rather recently, we were called to put out a fire in the Waste Reclaiming Plant in these railroad shops. Two big waste vats, holding about two thousand gallons of oil and waste, were in this plant, and fire started in the lower corner of one of these vats. Fire was discovered by the shop watchman at 11:30 p.m.

The watchman turned in the fire alarm, but did not use his head, for in each end of the buildings is a steam smother valve, which is a two-inch open end pipe with valve outside. The watchman walked by these valves to turn in the alarm, but he did not think to open the steam line.

When we arrived, the fire had had such a start that the inside of the building was a mass of flames. I ordered the steam valve opened, while the men were laying the hose line. The steam smothered the fire before the line was laid, and it is the steam that saved the building. The fire was out before the city Fire Department arrived.

I would like all readers of FIRE ENGINEERING to realize what they can do with steam, in case of an oil fire.

Yours truly,
THOS. A. COOK,
Chief, Denver and Rio Grande
Western Railroad Co.
Salt Lake City, Utah

New 750-Gallon Pumper Delivered to Santa Barbara, Cal.

A 750-gallon pumper, manufactured by the General Fire Truck Corporation, Detroit, Mich., has been delivered to Santa Barbara, Cal. It has a heavy duty C-12 cylinder motor. It climbed a twenty-two per cent grade at sixteen miles an hour, and attained a road speed of fifteen miles per hour in 160 feet. The truck carries 1,000 feet of 2½-inch hose, 250 feet of 1½-inch hose, and has a 400-gallon water tank. The company has the exclusive use to the heavy-duty Packard V-12 motor for Fire Department service. The apparatus carries a Northern two-stage centrifugal pump, has Timken axles and bearings, and an especially developed Clark transmission.

FALSE ALARMS

'Hot job at de poultry fahm last night, Pahson. By de way, bettah drop in fo' dinnah. Us is habbin' fowl!"

ALL EXPENSIVE

A fireman who spent his day off at the beach, found an unusual doll lying in the sand. True to his training as regards honesty, he inserted an advertisement in the town newspaper:

"Found—an expensive speaking doll on the beach. For details call at Station 3, Fire Department."

Some fellow who had a sour outlook on life, called and explained to the fellow who was polishing the pumper:

"All the dolls that I have picked up have been expensive enough, but terribly dumb."

The average man is proof enough that a woman can take a joke.

THE CAUSE

Gerrity was hurt at the fire, when he stepped into an open shaft. One of the boys at the station went up to the hospital to see him and to cheer him up.

He reported:

"Jim is going to be up at the hospital for a long time."

"Is that so," said the driver. "Did you see his doctor?"

"Naw. I saw his nurse."

A golf course is a place where the members try to break 80 on the course and 90 on the way home.

LIMIT TO LEARNING

Today, department officers must have knowledge of almost everything. At a party given by the Mayor, the Captain was talking to the Fire Commissioner, while the Commissioner's wife listened with a great deal of interest. Finally she turned to the Captain's wife and said:

"Your husband must be a very brilliant man—suppose he knows most everything."

"Don't fool yourself," answered the wife. "He doesn't even suspect anything."

One good thing about telling the truth is you never have to remember what you said.

HARMLESS

It all started innocently enough. She helped out at the refreshment stand the day of the department outing. He met her then, and they went together on several occasions. Through the kind interest of neighbors, his mother heard about the series of events.

"Son," she said, "I don't want to see you going around with that wild girl any more."

The son argued.

"Aw, heck, ma, she ain't wild. Anybody can pet her."

Girls who act like elder sisters,
Seldom register with misters.

THE HANDICAP

Each section of this country has its own style of pronunciation, and sometimes peculiar things happen because of it.

Take the case of the fireman who registered for the fire school and was seeking quarters for himself and two buddies. When he explained his wish to the man at the registration desk, the clerk said:

"That's fine. I'll show you a place without a flaw."

The fireman looked puzzled.

"My gosh! What do you walk on?"

As a wit remarked, "He's suffering from high blonde pressure."

ALL THE SAME

This is reminiscent of the recent floods.

Two of the city flappers were watching them load a pumper on a flat car, and watching some firemen board a train for the flood inundated area.

"Gee, I think it's a shame to send such nice fellows down there. What will they do there?"

"What'll they do," the other replied with much disgust; "Ain't you ever been out with a fireman?"

EACH IN HIS OWN WAY

The tillerman remarked, "Human nature is that which makes you swear at a pedestrian when you are driving, and at the driver when you are a pedestrian."

"Another combination shot," she said, as she leaned too far over the billiard table.

TRICKY FINANCE

The reporter who used to spend much of his spare time in the fire house, said to the Lieutenant:

"Say, Joe, will you lend me twenty dollars, and only give me ten? Then you'll owe me ten, and I'll owe you ten, and we'll be straight."

The feminine of bachelor is lady-in-waiting.

Puzzle: Find the Chief Who Did Not Attend the I. A. F. C. Convention

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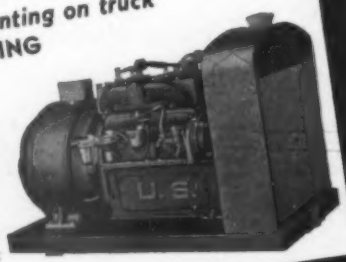

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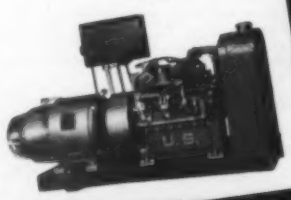

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FOR GREATER PROTECTION TO LIVES AND PROPERTY

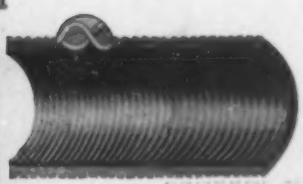
SPECIFY

EUREKA Multiple Woven 4-ply Fire Hose—heavy duty—four distinct plies—all circular woven—contains smooth interior filler ply—new and improved lap-seam, long-lived rubber lining.

Eureka Streamlined FIRE HOSE

How the "Smooth Interior Filler Ply" helps create a Streamlined Fire Hose.

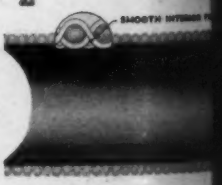
1



Subject an ordinary hose to hydraulic pressure and interior wall will be forced into a corrugated or "washboarded" condition. (See illustration No. 1 at left.) This condition causes excessive friction loss and consequently less water pressure at the nozzle—a weak fire fighting stream.

For a full, vigorous, strong fire fighting stream—with maximum pressure at nozzle due to minimum friction loss, a fire hose must have a smooth, streamlined waterway. Therefore Eureka Fire Hose has an individual set of warp and weft cords which fill in the valleys of the inner ply into which the rubber lining would ordinarily recede when hydraulic pressure is applied—and this set of cords is called "The Smooth Interior Filler Ply" (see illustration No. 2 at the right)—an exclusive Eureka feature.

2



3

Bomb-Tested Rubber Linings—Eureka *new* and *better* rubber lining with improved lap-seam . . . 4 plies of specially developed long-lived rubber . . . calendered into one homogeneous body . . . proved far superior by the Bomb Test—a scientific method of predetermining the aging characteristics of rubber goods. See illustration No. 3 at the left.

Mildew Proof Fabrics—All fabrics used in the different brands of *Eureka* Fire Hose are antiseptically treated to prevent the formation of mildew and rot. This exclusive Eureka mildew repellant solution does not add to the weight of the hose nor make the hose hard to handle.

4

Specify Eureka and get these exclusive advantages.

EUREKA FIRE HOSE

Division of United States Rubber Products, Inc

1790 BROADWAY **NEW YORK, N. Y.**